signal was divided. [redacted]e time-compressed segments are [redacted]en transmitted, the transmitted signal having the same time-bandwidth product as the voice signal. (10pp|
DE- <TITLE TERMS> AUDIO; VOICE; SCRAMBLE; SYSTEM; VOICE; SIGNAL; DIGITAL; PROCESSOR; RESPOND; PSEUDO; RANDOM; **KEY** ; WORD; DIVIDE; DIGITAL; SIGNAL; FREQUENCY; BAND; TIME; SLOT|
DC- W01; W02|
IC- <ADDITIONAL> H04K-001/06; H04L-009/02; H04M-001/68|
MC- <EPI> W01-A09; W01-C01X; W02-L|
FS- EPI||

26/4/20 (Item 20 from file: 351)
DIALOG(R)File 351:DERWENT WPI
(c)1999 Derwent Info Ltd. All rts. reserv.

AA- 81-C0540D/198110|
TI- Contactless express indicator of life - has two detectors and control slave monovibrator|
PA- MED TECH RES EXPER (MEDI-R)|
AU- <INVENTORS> BOLISHEV V M; KRIVITSKII N M; MAKHMUD-ZA R S|
NC- 001|
NP- 001|
PN- SU 743673 B 19800630 198110 B
|
AN- <PR> SU 2607941 A 19780421|
AB- <BASIC> SU 743673 B
The contactless express life indicator can be used in kineto-cardiographic units. It contains a detector, autogenerator (1), **mixer** (3), frequency detector (4), amplifier (6) and indicator (20), and also a second autogenerator (2) connected to the **mixer** and a return connection **block** (5) situated between detector output and the first autogenerator. In order to accelerate and ensure reliable conclusion on 'life or death', the indicator has a second detector, slave monovibrator of control (17), cycle **generator** (15), control **keys** (11), frequency **divider** (19). The unit is also provided with starting control **key** (7), extremum selector (8), duration former (9), integrator (10), multiplication **block** (12), comparator (13), decision **block** (14) and control **key** (16). Bul.24/30.6.80.|
DE- <TITLE TERMS> CONTACT; EXPRESS; INDICATE; LIFE; TWO; DETECT; CONTROL; SLAVE; MONOVIBRATOR|
DC- P31; S05|
IC- <ADDITIONAL> A61B-005/00|
MC- <EPI> S05-D01A|
FS- EPI; EngPI||

26/4/21 (Item 21 from file: 351)
DIALOG(R)File 351:DERWENT WPI
(c)1999 Derwent Info Ltd. All rts. reserv.

AA- 80-E0781C/198018|
TI- **Mixer** and control system for air conditioner - has adjustable set-point device associated with exhaust control channel|
PA- JOHNSON CONTROLS INC (JOHN-N)|
AU- <INVENTORS> BRAMOW S B; LAAKANIEMI R N; WICHMAN P E|
NC- 002|
NP- 004|
PN- US 4199101 A 19800422 198018 B
PN- CA 1138958 A 19830104 198306
PN- CA 1144621 A 19830412 198318
PN- CA 1144622 A 19830412 198318|
AN- <PR> US 796865 A 19790126; US 7992703 A 19791109; US 7992724 A 19791109
|
AB- <BASIC> US 4199101 A
The mixed air conditioning controller is formed as a factory assembled and adjusted unit in a compact housing, with simple and directed nput /output field connectors. Various temp. and humidity

inputs are field connected to produce a **sequenced** control of the air dampers and mechanical cooling and heating devices, as well as auxiliary devices.

The controller includes a primary input related to room demand, an outside air temp. input, with an interlocked control to the damper, a fan **status input**, a min. air supply control and a by-pass switch having a low limit input. The logic network connecting the input/output includes pneumatic switching, pressure selecting and comparing devices of a diaphragm-controlled orifice construction connected to function as fluidic repeaters, pressure regulating valves and pressure isolating and switching devices. The controller includes a conditioning channel and a damper channel.|

DE- <TITLE TERMS> MIX; CONTROL; SYSTEM; AIR; CONDITION; ADJUST; SET; POINT; DEVICE; ASSOCIATE; EXHAUST; CONTROL; CHANNEL|
DC- Q74; T06|
IC- <ADDITIONAL> F24F-005/00; F24F-006/00; F24F-011/00; G05D-022/02; G05D-023/13; G05D-027/02|
FS- EPI; EngPI||

26/4/22 (Item 22 from file: 351)
DIALOG(R)File 351:DERWENT WPI
(c)1999 Derwent Info Ltd. All rts. reserv.

AA- 78-G6338A/197834|
TI- Frequency drift meter of electrical signal - has HF generator with frequency divider connected through **mixer** to pulse counter|
PA- ARSENAL (ARSE-R)|
AU- <INVENTORS> MIKHNO V M; SIKORA A I|
NC- 001|
NP- 001|
PN- SU 571767 A 19771014 197834 B
|
AN- <PR> SU 2007305 A 19740322|
AB- <BASIC> SU 571767 A

Frequency drift meter of electrical signal for measuring systems with frequency sensors has HF generator (1) connected through controlled frequency divider (9) to **mixer** (7). Measurement is made in two stages by operation of switches (3, 4). Monitored frequency passes through amplifier (2) and switch (3A) to divider (5) connected to input of time interval circuit (6).

Pulse of length equal to a number of pulses of generator (1) passes through switch (4A) to gate (8). **Sequence** of pulses of reference frequency passes to counter (10) which registers a number representing coefficient of division of divider (9).

In B position of switches (3, 4) **reference** frequency and **input** frequency are applied to **mixer** (7). Output of LF signal from **mixer** passes through divider (5) to shaping circuit (6) and through switch (4B) to gate (8) which transmits a sequency of pulses to counter (10). Numerical code from counter (10) is stored in computer (11). The computer evaluates difference of frequencies in consecutive time periods equivalent to a number of reference frequency cycles.|

DE- <TITLE TERMS> FREQUENCY; DRIFT; METER; ELECTRIC; SIGNAL; HF; GENERATOR; FREQUENCY; DIVIDE; CONNECT; THROUGH; MIX; PULSE; COUNTER|
DC- S01|
IC- <ADDITIONAL> G01R-023/14|
FS- EPI||

26/4/23 (Item 1 from file: 347)
FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- **SCRAMBLER** AND DATA MULTIPLEXING METHOD
PN- 10-004542 -JP 10004542 A-
PD- January 06, 1998 (19980106)
AU- HATAKEYAMA TAKESHI; KATSUTA NOBORU
PA- MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)

AN- 08-156545 -JP 9615[redacted]5-
AD- June 18, 1996 (19960618)
IC- -6- H04N-007/167; H04L-009/12; H04L-009/20; H04L-009/36; H04N-007/24
CL- 44.6 (COMMUNICATION -- Television); 44.2 (COMMUNICATION -- Transmission Systems); 44.3 (COMMUNICATION -- Telegraphy)
AB- PROBLEM TO BE SOLVED: To allow other recipients than a regular recipient to view data where part of objects is missing by setting a scramble mode to each of multiplexed object data.

SOLUTION: Data corresponding to an image object A in a **scrambler** 11 are not scrambled but data corresponding to only image objects B, C are scrambled and outputted. A descrambler 12 conducts inverse processing of the **scrambler** 11 and recovers the data. In this case, a scramble signal is analyzed by a CPU 121 and each of object data are fed to cipher decoders 123-125 via a demultiplexer 122. The scramble mode of the object data to be added are analyzed by a CPU 121, which sets the scramble mode to the decoders 123-125 and the data are descrambled by using a scramble **key** in the **separate** scramble modes.

26/4/24 (Item 2 from file: 347)
FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- DEVICE AND METHOD FOR RECORDING DATA, DEVICE AND METHOD FOR REPRODUCING DATA, AND RECORDING MEDIUM
PN- 09-115241 -JP 9115241 A-
PD- May 02, 1997 (19970502)
AU- SAKO YOICHIRO; KURIHARA AKIRA; OSAWA YOSHITOMO; KAWASHIMA ISAO; OWA HIDEO
PA- SONY CORP [000218] (A Japanese Company or Corporation), JP (Japan)
AN- 08-105568 -JP 96105568-
AD- April 25, 1996 (19960425)
IC- -6- G11B-020/10; G11B-007/00
CL- 42.5 (ELECTRONICS -- Equipment)
KW- R002 (LASERS)
AB- PROBLEM TO BE SOLVED: To make it possible to know production history of a recording medium and to prevent a copy from being performed easily by providing an input means for receiving specific **identification information** and a recording means recording at least he **identification information** on the recording medium.

SOLUTION: This device is provided with a cyphering circuit 3 cyphering the input data to be recorded based on an encoder ID, and records the data cyphered by the circuit 3 on an optical disk D together with the encoder ID. A **mixer** circuit 4 is provided on the prestage of a recording means 5, and the encoder ID is mixed in the data **sequence** of the cyphered data in the circuit 4. Thus, the encoder ID is recorded on the data recording area of the disk D on which the cyphered data is to be recorded. By recording the encoder ID on the disk D, the history of a data recorder is stored in the disk D. Further, because, the history is able to be pursued, somebody who trys to copy the disk, will give up to copy the disk, and an illicit copy is prevented.

26/4/25 (Item 3 from file: 347)
FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- COMMUNICATION SYSTEM FOR CIPHERED CONTROL SIGNAL
PN- 05-316099 -JP 5316099 A-
PD- November 26, 1993 (19931126)
AU- NOGUCHI YOSHIRO; ADACHI KAZUO
PA- MITSUBISHI ELECTRIC CORP [000601] (A Japanese Company or Corporation), JP (Japan)
AN- 04-142079 -JP 92142079-
AD- May 08, 1992 (19920508)
IC- -5- H04L-009/00; H04L-009/10; H04L-009/12

CL- 44.3 (COMMUNICATION -- Telegraphy)
SO- Section: E, Section No. 1517, Vol. 18, No. 124, Pg. 66, February 28, 1994 (19940228)
AB- PURPOSE: To relieve the load on the hardware and the software and to prevent interception to a ciphered control signal by adding an invalid bit and valid bit **identification data** to a control signal in the operation of a distribution system.

CONSTITUTION: A sales office 1 is provided with a master station 2, a general terminal data generating section 4 and a **mixer** section and connected to a slave station 8 via a common use 2-way transmission line TL. The master station 2 has a control signal generating section 2a and a pseudo ciphering processing section 2b, adds an invalid bit to the control signal to cipher the control signal and adds valid bit **identification data** representing a valid bit to the ciphered control signal and the data are sent/received between the master station 2 and the slave station 8. A control signal decoder 9 of the slave station 8 extracts the valid bit based on the valid bit **identification data** added to the ciphered control signal and extracts the true control signal for decoding. As a result, ciphering and decoding are attained with the simple hardware and software without use of a **random number** .

26/4/26 (Item 4 from file: 347)
FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- RELAY STATION AND SPEED DETECTION SYSTEM INCLUDING THAT RELAY STATION
PN- 04-025786 -JP 4025786 A-
PD- January 29, 1992 (19920129)
AU- MIYAMOTO TOMIZO; MOCHIZUKI SUETAKA; ITO SEIZABURO
PA- FURUNO ELECTRIC CO LTD [368425] (A Japanese Company or Corporation), JP (Japan)
AN- 02-132198 -JP 90132198-
AD- May 22, 1990 (19900522)
IC- -5- G01S-015/58
CL- 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor Vehicles)
SO- Section: P, Section No. 1348, Vol. 16, No. 189, Pg. 142, May 08, 1992 (19920508)
AB- PURPOSE: To output an answer signal which has high frequency accuracy by offsetting variation in the oscillation frequency of an internal local oscillator itself when a signal is mixed by a **mixer** in the relay station.

CONSTITUTION: The mobile station 50 as the relay station receives a signal of frequency A from a fixed station 10 as a **key** station, **divides** or multiplies its frequency by (n), and sends the resulting signal. Here, the frequency division is used. When the mobile station 50 receives a signal of frequency including a frequency shift due to the relative movement between both the stations, a 1st **mixer** 56 mixes the signal with a signal of oscillation frequency B from the local oscillator 55. The signal of frequency B is frequency-divided by a 1st frequency divider 59 to 1/n and the output signal of the **mixer** 56 is frequency-divided by a 2nd frequency divider 60 to 1/n; and a 2nd **mixer** 61 mixes those signals to generate the answer signal. The frequency B is erased with this signal and the influence of frequency variation of the oscillator 55 is eliminated. Further, the frequency division is performed before the **mixer** 61 to suppress higher harmonic generation.

26/4/27 (Item 5 from file: 347)
FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- BIOACTIVE PROTEIN IN PHYTOLACCA AMERICANA L.
PN- 03-145498 -JP 3145498 A-
PD- June 20, 1991 (19910620)

AU- FUNATSU GUNKI
PA- SUMITOMO CHEM CO LTD [000209] (A Japanese Company or Corporation), JP (Japan)
AN- 01-281373 -JP 89281373-
AD- October 27, 1989 (19891027)
IC- -5- C07K-013/00; A61K-035/78; C07K-003/02; A01H-001/00; C12N-015/29; C12P-021/02
CL- 14.1 (ORGANIC CHEMISTRY -- Organic Compounds); 14.4 (ORGANIC CHEMISTRY -- Medicine)
KW- R059 (MACHINERY -- Freeze Drying)
SO- Section: C, Section No. 867, Vol. 15, No. 361, Pg. 135, September 12, 1991 (19910912)
AB- NEW MATERIAL: A bioactive protein specified by an amino acid **sequence** represented by the formula.

USE: A preventive against plant virus infection, an antiviral agent and a protein synthesis inhibitor.

PREPARATION: For example, **seeds** of Phytolacca americana L. are crushed using a **mixer** and subsequently washed with petroleum ether for removal of oily substances and deionized water is added to the resultant defatted powder. The obtained liquid is adjusted to pH 4.0 using hydrochloric acid, stirred for extraction of proteins and subjected to centrifugal separation for collection of an extracted solution. To the resultant extracted solution, ammonium nitrate is added until the solution is saturated in order to precipitate the proteins. The precipitated proteins are separated, dissolved in a small portion of water, dialyzed using a trishydrochloric acid buffer solution (pH8.5) and subjected to the anion-exchange column chromatography for collection of non-adsorbed fractions. The collected fractions are subjected to the cation-exchange column chromatography and then eluted by a linear concentration slope of 0-0.3M common salt, thus obtaining the objective bioactive protein of the formula.

26/4/28 (Item 6 from file: 347)
FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- PHYSIOLOGICALLY ACTIVE PROTEIN OF MOMORDICA CHARANTIA
PN- 03-112999 -JP 3112999 A-
PD- May 14, 1991 (19910514)
AU- FUNATSU GUNKI
PA- SUMITOMO CHEM CO LTD [000209] (A Japanese Company or Corporation), JP (Japan)
AN- 01-250318 -JP 89250318-
AD- September 26, 1989 (19890926)
IC- -5- C07K-013/00
CL- 14.1 (ORGANIC CHEMISTRY -- Organic Compounds); 14.4 (ORGANIC CHEMISTRY -- Medicine)
KW- R059 (MACHINERY -- Freeze Drying)
SO- Section: C, Section No. 856, Vol. 15, No. 306, Pg. 34, August 06, 1991 (19910806)
AB- NEW MATERIAL: A physiologically active protein specified by an amino acid sequeuce shown by the formula.

USE: A protein synthesis inhibitor and a virus multiplication inhibitor.

PREPARATION: For example, **seeds** of Momordica charantia are ground by a **mixer** , washed with petroleum ether to remove an oily substance, de-fatted powder is mixed with deionized water, adjusted to pH 4.0 with 10% hydrochloric acid and stirred at 4-6 deg.C to extract protein. Then the extracted solution is saturated with ammonium sulfate to precipitate protein, which is separated, dissolved in a small amount of distilled water, the dissolved solution is dialyzed and subjected to gel filtration, a fraction showing protein synthesis inhibiting activity is collected, purified

by passing through ion exchange column, treated with trypsin, subjected to reversed phase high-performance liquid chromatography, further an active fraction is treated with cyanogen bromide and subjected to gel filtration to give physiologically active protein having an amino acid **sequence** shown by the formula.

26/4/29 (Item 7 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- PHYSIOLOGICALLY ACTIVE PROTEIN OF LUFFA CYLINDRICA
PN- 03-109398 -JP 3109398 A-
PD- May 09, 1991 (19910509)
AU- FUNATSU GUNKI
PA- SUMITOMO CHEM CO LTD [000209] (A Japanese Company or Corporation), JP (Japan)
AN- 01-247410 -JP 89247410-
AD- September 22, 1989 (19890922)
IC- -5- C07K-013/00; A61K-037/02; A61K-037/02; C07K-003/02
CL- 14.1 (ORGANIC CHEMISTRY -- Organic Compounds); 14.4 (ORGANIC CHEMISTRY -- Medicine)
KW- R059 (MACHINERY -- Freeze Drying)
SO- Section: C, Section No. 854, Vol. 15, No. 297, Pg. 104, July 29, 1991 (19910729)
AB- NEW MATERIAL: A physiologically active protein produced by Luffa cylindrica and specified by an amino acid **sequence** expressed by the formula.

USE: An agent for inhibiting synthesis of protein and agent for suppressing proliferation of virus.

PREPARATION: For example, **seed** of Luffa cylindrica is powdered by a **mixer** and then cleaned by petroleum ether to remove a oily substance and deionized water is added to the degreased powder and pH thereof is controlled to 4.0 with hydrochloric acid and stirred with a **mixer** at 4-6 deg.C to extract protein and the extract is centrifuged and the supernatant is collected and saturated with ammonium sulfate to precipitate protein. Then the precipitate is dissolved in distilled water and dialyzed and subjected to gel filtration and then an active fraction is subjected to ion exchange column chromatography and purified to provide the physiologically active protein expressed by the formula.

26/4/30 (Item 8 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 1999 JPO & JAPIO. All rts. reserv.|
TI- SYSTEM FOR PROCESSING HOMOGENEOUS HUSHING
PN- 63-146124 -JP 63146124 A-
PD- June 18, 1988 (19880618)
AU- MITANI MASAAKI
PA- FUJITSU LTD [000522] (A Japanese Company or Corporation), JP (Japan)
AN- 61-294203 -JP 86294203-
AD- December 10, 1986 (19861210)
IC- -4- G06F-007/28
CL- 45.1 (INFORMATION PROCESSING -- Arithmetic **Sequence** Units); 45.2 (INFORMATION **PROCESSING** -- Memory Units
SO- Section: P, Section No. 778, Vol. 12, No. 408, Pg. 104, October 28, 1988 (19881028)
AB- PURPOSE: To execute a homogeneous hushing at high speed even against not only a numerical value but also a character-string of different length, by converting the **key** item of a hushing object to a standard type, and executing an addition to a **seed** , a shift of an odd bit, and the bit inversion of a result which becomes an even number, with regard to its unit data.

CONSTITUTION: Each **key** item K(sub i) which becomes the hushing object is converted to the **key** N(sub i) of the standard type being

in common with various numerical values and characters by a standard type conversion processing part 11, and this **key** N(sub i) is fetched successively at every unit data, for instance, of one byte by an arithmetic part 12, and an addition to I(sub i) which becomes the **seed** of **randomization** or r(sub j) being an intermediate result is executed. A shift processing part 13 executes a processing for mixing the result of operation of the arithmetic part 12 by the circulating shift of an odd bit, etc., and an inversion processing part 14 executes a bit inversion when the result of shift by the shift processing part 13 is an even number. In case of a **randomization** processing, when an odd number is used as an arithmetic object, a more satisfactory **randomization** result than a case when an even number is an arithmetic object is obtained, therefore, homegeneous hushing is executed.

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?show files;ds
File 351:DERWENT WPI 1963-1999/UD=9937;UP=9937;UM=9937
         (c)1999 Derwent Info Ltd
File 344:Chinese Patents ABS Apr 1985-1999/Aug
         (c) 1999 European Patent Office
File 347:JAPIO Oct 1976-1999/Apr.(UPDATED 990812)
         (c) 1999 JPO & JAPIO

Set      Items   Description
S1        1558   (SPLIT? OR DIVID? OR SEGMENT? OR PARTITION? OR SEPARAT?)(2-
             N)(KEY OR KEYS OR CIPHER? ?)
S2      287293   SEQUENCE? ? OR BINARY(2N)(SEQUENCE? ? OR NUMBER? ?) OR RAN-
             DOM?(2N)(SEQUENCE? ? OR NUMBER? ?) OR PSEUDO()RANDOM?(2N)(SEQ-
             UENCE? ? OR NUMBER? ?) OR PSEUDORANDOM?(2N)(SEQUENCE? ? OR NU-
             MBER? ?)
S3       67789   RANDOMISER? ? OR RANDOMIZER? ? OR RANDOMISATION OR RANDOMI-
             ZATION OR SCRAMBLER OR MIXER
S4      999293   KEY OR KEYS OR STREAM OR STREAMS OR KEYSTREAM OR KEYSTREAMS
              OR BLOCK OR BLOCKS OR SYMBOL OR SYMBOLS OR MATRIX OR MATRICES
              OR ARRAY OR ARRAYS
S5      104760   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
             EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
             TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
             ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(DATA OR INPUT)
S6       79381   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
             EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
             TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
             ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(INFORMATION)
S7     7680491   GENERAT? OR SYNTHES? OR BUILD? OR CONSTRUCT? OR CREAT? OR -
             DEVELOP? OR MAKE OR MAKING OR PROCESS? OR OUTPUT? OR PRODUC?
S8         135   S1(5N)S7
S9       58302   S2(5N)S7
S10          3   S3 AND S8
S11        300   S3 AND S9
S12          3   S4 AND S10
S13         74   S4 AND S11
S14          1   (S5:S6) AND S12
S15          4   (S5:S6) AND S13
S16          5   S1 AND S3
S17          1   (S5:S6) AND S16
S18       1060   S2 AND S3
S19         24   (S5:S6) AND S18
S20         28   S10 OR S12 OR S14:S17 OR S19
S21         48   S3 AND S4 AND (S5:S6)
S22         43   S21 NOT S20
S23          0   S22 AND MC=W01-A05A?
S24          1   S22 AND IC=H04L-009/08
S25          2   S22 AND (CRYPT? OR ENCRYPT?)
S26         30   S20 OR S24:S25
?t26/4/all

 26/4/1     (Item 1 from file: 351)
DIALOG(R)File 351:DERWENT WPI
(c)1999 Derwent Info Ltd. All rts. reserv.

IM- *Image available*
AA- 98-457462/199839|
XR- <XRPX> N98-357031|
TI- Cryptographic key   split  combiner e.g. for encrypting plaintext
    messages - has random split generator   generating  pseudo-random
   sequence  and key   splits  based on reference, chronological and
   static   data |
PA- SECURE TRANSACTION SOLUTIONS LLC (SECU-N)|
AU- <INVENTORS> SCHEIDT E M; WACK C J|
NC- 072|
NP- 002|
PN- WO 9836520  A1 19980820 WO 97US11304 A  19970620 H04L-009/00   199839 B
PN- AU 9738794  A  19980908 AU 9738794   A  19970620 H04L-009/00   199904|
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AN- <LOCAL> WO 97US11304 A 19970620; AU 9738794 A 19970[illegible]
AN- <PR> US 9739696 A 19970213|
FD- WO 9836520 A1
<DS> (National): AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
<DS> (Regional): AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW
FD- AU 9738794 A Based on WO 9836520|
LA- WO 9836520(E<PG> 23)|
DS- <NATIONAL> AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN|
DS- <REGIONAL> AT; BE; CH; DE; DK; EA; ES; FI; FR; GB; GH; GR; IE; IT; KE; LS; LU; MC; MW; NL; OA; PT; SD; SE; SZ; UG; ZW|
AB- <BASIC> WO 9836520 A
The cryptographic **key split** combiner comprises **key split generators** for **generating** cryptographic **key splits** . A **key split randomiser** is provided for randomising the splits to produce a cryptographic **key** .
Each **generator generates key splits** from **seed** data and a random split generator for generating a random split based on **reference data** . Preferably, the random split **generator generates** a **random sequence** based on the **reference data** .
USE - E.g. for encrypting embedded objects, decrypting ciphertext communications media.
ADVANTAGE - Provides added security against compromising a communications medium, which may include software component objects, by unauthorised entities. Develops **key** components which cannot be reproduced by unauthorised parties.
Dwg.2/3|
DE- <TITLE TERMS> CRYPTOGRAPHIC; **KEY** ; SPLIT; COMBINATION; MESSAGE; RANDOM ; SPLIT; GENERATOR; GENERATE; PSEUDO; RANDOM; **SEQUENCE** ; **KEY** ; SPLIT; BASED; REFERENCE; CHRONOLOGICAL; STATIC; DATA|
DC- W01|
IC- <MAIN> H04L-009/00|
MC- <EPI> W01-A05A|
FS- EPI||

26/4/2 (Item 2 from file: 351)
DIALOG(R)File 351:DERWENT WPI

IM- *Image available*
AA- 98-143957/199813|
XR- <XRAM> C98-047019|
TI- Production of cell-structure concrete mixture - comprises processing mixture first in hydraulic, then in averaging **mixer** , foaming by pumping through ejector-aerator with input of surfactant, and additional processing in passage through static **mixer** |
PA- GAZBLOK RES PRODN FIRM (GAZB-R)|
AU- <INVENTORS> DULAEV V KH; MRAZEVSKII M P; NEZHELSKII A A|
NC- 001|
NP- 001|
PN- RU 2085546 C1 19970727 RU 95101428 A 19950126 C04B-038/02 199813 B |
AN- <LOCAL> RU 95101428 A 19950126|
AN- <PR> RU 95101428 A 19950126|
LA- RU 2085546(3)|
AB- <BASIC> RU 2085546 C
The unit for realisation of method comprises hydraulic **mixer** (1), connecting tank (2), pump aggregate (3), ejector-aerator (4), static **mixer** (5), and output line (6). The pumping of solution through ejector-aerator with open air **input** and **static mixer** in **sequence** ensures aeration of mixture and multiple mixing to formation of homogeneous three-phase mixture. The adjustment of opening cross-section for air input to ejector controls the degree of aeration

of solution and the output density of solution. Obtained uniform-dispersion stable mixture can be transported to large distances in horizontal and vertical directions.

USE - In production of concrete mixtures of non autoclave hardening for monolithic and assembled building construction.

ADVANTAGE - Improved quality of cell-structure concrete mixture and of hardened concrete; utilisation of ejector-aerator excludes compressors and reduces production costs.

Dwg.1/1|

DE- <TITLE TERMS> PRODUCE; CELL; STRUCTURE; CONCRETE; MIXTURE; COMPRISE; PROCESS; MIXTURE; FIRST; HYDRAULIC; AVERAGE; MIX; FOAM; PUMP; THROUGH; EJECT; AERATE; INPUT; SURFACTANT; ADD; PROCESS; PASSAGE; THROUGH; STATIC; MIX|

DC- L02|

IC- <MAIN> C04B-038/02|

IC- <ADDITIONAL> C04B-040/00|

MC- <CPI> L02-D03; L02-D04|

FS- CPI||

26/4/3 (Item 3 from file: 351)

DIALOG(R)File 351:DERWENT WPI

IM- *Image available*

AA- 96-237495/199624|

XR- <XRAM> C96-075721|

TI- Appts. producing highly conc. feed form protein from oil **seeds** - has raw material hopper, weigher, electromagnetic separator, **mixer** , comminuter, extractor and insoluble raw material-residue separator|

PA- OILS FATS RES PRODN ASSOC (OILS-R)|

AU- <INVENTORS> DOMOROSHCHENKOVA M L; KRASILNIKOV V N; STUPAKOVA L F|

NC- 001|

NP- 001|

PN- RU 2043743 C1 19950920 SU 5025837 A 19911126 A23N-017/00 199624 B |

AN- <LOCAL> SU 5025837 A 19911126|

AN- <PR> SU 5025837 A 19911126|

LA- RU 2043743(5)|

AB- <BASIC> RU 2043743 C

Appts. for producing highly concentrated feed form protein includes, in the set **processing sequence** , feeding transporters, raw material hopper (1), weigher (2), electromagnetic separator (3), **mixer** (4), comminuter (5), extractor (6), insoluble raw material-residue separator (8), protein from extract extractor (10), whey separator (11), protein washer (13), wash water separator (14), protein dispersion neutraliser (17), preheater (21), protein dispersion heat treater (23), acid or alkali treater (25), dryer (26), bagger and packager (27) of finished prod., **mixer** (28) for forming imparted properties of total **stream** of whey and waters, heat exchanger (29), whey and wash water concentrator (30), steriliser (35), water recirculator (36), **mixer** (38) for the formation of the rheological properties and component compsn. of the insoluble residue of the initial raw materials, structural former (39) of the by-products, transfer vessels (15, 16, 32, 33, 37) and pumps (7, 9, 12, 19, 34). The plant additionally has a fermentative hydrolyser (22) after the protein dispersion neutraliser (17).

USE - Used in the food industry and may be used during the prodn. of feed form proteins from cakes of **seeds** of oil yielding vegetation.

ADVANTAGE - Increases the effectiveness by increasing the technological versatility of the plant.

Dwg.1/1|

DE- <TITLE TERMS> APPARATUS; PRODUCE; HIGH; CONCENTRATE; FEED; FORM; PROTEIN; OIL; **SEED** ; RAW; MATERIAL; HOPPER; WEIGH; ELECTROMAGNET; SEPARATE; MIX; COMMINUTE; EXTRACT; INSOLUBLE; RAW; MATERIAL; RESIDUE; SEPARATE|

DC- D13|

IC- <MAIN> A23N-017/00|
MC- <CPI> D03-F01; D03-F02|
FS- CPI||

26/4/4 (Item 4 from file: 351)
DIALOG(R)File 351:DERWENT WPI

IM- *Image available*
AA- 95-234097/199531|
XR- <XRPX> N95-182512|
TI- Transformation pattern generator and encryption function device - generates predetermined transformation pattern according to number **sequence** entered as encryption **key** |
PA- FUJITSU LTD (FUIT)|
AU- <INVENTORS> AKIYAMA R; IWAYAMA N; TORII N; UTSUMI K|
NC- 003|
NP- 004|
PN- GB 2285562 A 19950712 GB 95437 A 19950110 H04L-009/18 199531 B
PN- JP 8227269 A 19960903 JP 94318221 A 19941221 G09C-001/00 199645
PN- US 5623548 A 19970422 US 95370881 A 19950110 H04L-009/00 199722
PN- GB 2285562 B 19980218 GB 95437 A 19950110 H04L-009/18 199810|
AN- <LOCAL> GB 95437 A 19950110; JP 94318221 A 19941221; US 95370881 A 19950110; GB 95437 A 19950110|
AN- <PR> JP 94318221 A 19941221; JP 94997 A 19940110; JP 94314879 A 19941219|
LA- GB 2285562(66); JP 8227269(16); US 5623548(30)|
AB- <BASIC> GB 2285562 A
The transformation pattern generator has an input for an encryption **key** . A transformation pattern generator recognises the **key** as a number **sequence** and **generates** a transformation pattern for transformation of the data. An output passes the generated pattern to further circuitry.
Pref., when the number **sequence** corresp. to a permutation pattern for transposing a bit **sequence** of data having a number of bits on a bit-by-bit basis, the transformation pattern generator generates the permutation pattern corresp. to the number **sequence** with permutation bit positions for respective bits of the data.
USE/ADVANTAGE - Parallel **randomisation** process with particularly high **randomisation** effect. Computer network security. Does not involve increasing bit length of **key** to determine several substitutions tables and permutation patterns, thereby reduces **key** storage area.
Dwg.1/22|
AB- <GB> GB 2285562 B
The transformation pattern generator has an input for an encryption **key** . A transformation pattern generator recognises the **key** as a number **sequence** and **generates** a transformation pattern for transformation of the data. An output passes the generated pattern to further circuitry.
Pref., when the number **sequence** corresp. to a permutation pattern for transposing a bit **sequence** of data having a number of bits on a bit-by-bit basis, the transformation pattern generator generates the permutation pattern corresp. to the number **sequence** with permutation bit positions for respective bits of the data.
USE/ADVANTAGE - Parallel **randomisation** process with particularly high **randomisation** effect. Computer network security. Does not involve increasing bit length of **key** to determine several substitutions tables and permutation patterns, thereby reduces **key** storage area.
Dwg.1|
AB- <US> US 5623548 A
An encryption function device, comprising:
key input means for inputting a **key** for encryption;
transformation pattern generating means for using the **key** as a **key** number **sequence** and for **generating** a transformation pattern using at least one of the **key** number **sequence** and a **pseudo** -

random number sequence generated by a **random number generator** using the **key** number **sequence** as a **seed** ; and

transformation means for transforming data in accordance with the transformation pattern generated by said transformation pattern generating means,

wherein the transformation pattern includes m substitution tables and a permutation circuit having m input terminals and m output terminals,

wherein said transformation means includes:

m input switches, where m is an even number;

m output destination switches;

m exclusive-OR circuits; and

a bit rotate shift mechanism having m input terminals and m output terminals; and

wherein a j-th input switch in one switching state outputs a j-th mini-**block** which is one of m mini-**blocks** into which input data is divided, and the j-th input switch in another switching state outputs a mini-**block** sent from a j-th output destination switch;

the j-th output destination switch in one switching state outputs the j-th mini-**block** of the bit rotate shift means, and the j-th output destination switch in another switching state outputs the j-th mini-**block** of the bit rotate shift means to the j-th input switch;

an output of a k-th input switch is input to an address of a k-th substitution table, where k is between 1 and m/2;

an output of the k-th substitution table and an output of an (i+k-1)-th substitution table are input to a k-th exclusive-OR-circuit;

an output of an (i+k-1)-th exclusive-OR circuit is input to an address of the (i+k-1)-th substitution table;

an output of an (i+k-1)-th input switch and the output of the k-th substitution table are input to the (i+k-1)-th exclusive-OR circuit;

an output of the k-th exclusive-OR circuit is input to a k-th input terminal of the permutation circuit;

the output of the (i+k-1)-th substitution table is applied to an (i+k-1)-th input terminal of the permutation circuit;

a j-th output of the permutation circuit is input to a j-th input terminal of the bit rotation shift means; and

the bit rotate shift means rotatively shifts entire data input to first to m-th input terminals.

Dwg.1/22|

DE- <TITLE TERMS> TRANSFORM; PATTERN; GENERATOR; ENCRYPTION; FUNCTION; DEVICE; GENERATE; PREDETERMINED; TRANSFORM; PATTERN; ACCORD; NUMBER; **SEQUENCE** ; ENTER; ENCRYPTION; **KEY** |
DC- P85; T01; W01|
IC- <MAIN> G09C-001/00; H04L-009/00; H04L-009/18|
IC- <ADDITIONAL> H04L-009/10; H04L-009/12|
MC- <EPI> T01-D01; T01-E04; W01-A05A|
FS- EPI; EngPI||

26/4/5 (Item 5 from file: 351)

IM- *Image available*
AA- 94-341243/199442|
XR- <XRPX> N94-267710|
TI- Programmable **sequence** controller eg. for two liquid **mixer** - organically and selectively combines sequential instructions in response to respective operation conditions which take place|
PA- MITSUBISHI DENKI KK (MITQ)|
AU- <INVENTORS> EGAMI N|
NC- 001|
NP- 001|
PN- US 5359507 A 19941025 US 90476608 A 19900207 G06F-015/46 199442 B
<AN> US 9334220 A 19930312|
AN- <LOCAL> US 90476608 A 19900207; US 9334220 A 19930312|
AN- <PR> JP 8986953 A 19890407; JP 8986952 A 19890407|

FD- US 5359507 A Cont of US 90476608|
LA- US 5359507(18)|
AB- <BASIC> US 5359507 A
The **sequence** controller is capable of executing programmable **sequence** operations written in its **sequence** table. The **sequence** table comprises a group of **input condition** collecting instructions, a group of branch condition collecting instructions, a table instruction and a group of input instructions, and has an accumulator for combining such instructions organically and selectively to deal with various **sequence** operation conditions. Thus it is possible to provide complicated control operations by use of the **sequence** table.
The **sequence** table also contains a step number storing section which stores the original step number upon transition from one step to another, and a step return performing portion. When a predetermined branch condition is met, the step return performing portion initiates a return to the step stored in the section or to the next step.
ADVANTAGE- Error handling steps are shared among different processes and total number of steps in **sequence** table is reduced accordingly.
Dwg.9/15|
DE- <TITLE TERMS> PROGRAM; **SEQUENCE** ; CONTROL; TWO; LIQUID; MIX; ORGANIC; SELECT; COMBINATION; **SEQUENCE** ; INSTRUCTION; RESPOND; RESPECTIVE; OPERATE; CONDITION; PLACE|
DC- T01; X25|
IC- <MAIN> G06F-015/46|
MC- <EPI> T01-J07B; X25-J|
FS- EPI||

26/4/6 (Item 6 from file: 351)
DIALOG(R)File 351:DERWENT WPI

IM- *Image available*
AA- 94-161453/199420|
XR- <XRPX> N94-127102|
TI- Musical instrument digital interface - Karaoke system matching flexibly requirements of reproduction in different rooms with different discs without much extra cost.|
PA- PIONEER ELECTRONIC CORP (PIOE)|
AU- <INVENTORS> INABA N; SATO M|
NC- 002|
NP- 002|
PN- JP 6102890 A 19940415 JP 92252851 A 19920922 G10K-015/04 199420 B
PN- US 5589947 A 19961231 US 93124704 A 19930921 H04N-005/76 199707
<AN> US 94345543 A 19941128|
AN- <LOCAL> JP 92252851 A 19920922; US 93124704 A 19930921; US 94345543 A 19941128|
AN- <PR> JP 92252851 A 19920922|
FD- US 5589947 A Cont of US 93124704|
LA- JP 6102890(12); US 5589947(16)|
AB- <BASIC> JP 6102890 A
In the wider use of Karaoke system to cater greater rooms and discs, flexibility is catered for by musical instrument digital interface. It consists of a central device and two or more terminal equipments. The performance information memory in the central device senses the requirements and interfacing is done between tonal and video information with great flexibility to match with increase of rooms and signals. ADVANTAGE Without extra cost interfacing of tonal signals and video signals is done moving memory system.
Dwg.1/8|
AB- <US> US 5589947 A
A karaoke system comprising:
a plurality of terminal systems capable of respectively reproducing at the same time music and video images of music songs; and
a center system connected to the plurality of terminal systems, said center system comprising:
a unique musical performance information storage unit for storing

digital performance information relating to music songs to be reproduced, said digital performance information including **sequence data** and **reference data** for each of the music songs, said **sequence** data including at least data relating to musical intervals, volume and words-of-song to be displayed on a monitor, said **reference data** including at least data relating to names of the music songs;

a musical performance information transmitter for transmitting the digital performance information, for each of the music songs, read out from the musical performance information storage unit to the plurality of terminal systems, said musical performance information transmitter reading out the digital performance information for a music piece in a time period shorter than an actual playing time of the music piece;

a video image storage unit for storing a plurality of video images distributed in accordance with kinds of music songs;

a video image generator for generating a video image from the video image storage unit according to the kind of music song; and

a video information transmitter for transmitting the generated video image to the plurality of terminal systems,

each of the plurality of terminal systems comprising:

a music information generator for generating analog music information of the music songs on the basis of the transmitted digital performance information;

a music information reproducer for reproducing the music information as musical sound;

a video image reproducer for reproducing the transmitted video images simultaneous with the music information; and

a video image **mixer** for generating a character image on the basis of the words-of-music data included in the digital performance information transmitted and superimposing the character image on the video images wherein said musical performance information transmitter transmits the digital performance information by a transmission frequency band different from that of the video information transmitter.

Dwg.2/9|

DE- <TITLE TERMS> MUSIC; INSTRUMENT; DIGITAL; INTERFACE; KARAOKE; SYSTEM; MATCH; FLEXIBLE; REQUIRE; REPRODUCE; ROOM; DISC; EXTRA; COST|
DC- P85; P86; W02; W04|
IC- <MAIN> G10K-015/04; H04N-005/76|
IC- <ADDITIONAL> G09B-015/00; G09F-027/00; G10H-007/00; G11B-027/34; H04H-001/00; H04H-001/02; H04N-007/18|
MC- <EPI> W02-F01; W04-C10A; W04-K05; W04-U05; W04-X03A3|
FS- EPI; EngPI||

26/4/7 (Item 7 from file: 351)

IM- *Image available*
AA- 94-083374/199410|
DX- <RELATED> 94-083404; 95-098896|
XR- <XRPX> N94-065095|
TI- Vehicular radar system esp. to aid in collision avoidance - uses two channel frequencies with digital processing, performing Fast Fourier Transform to determine target relative speed and range|
PA- VORAD SAFETY SYSTEMS INC (VORA-N)|
AU- <INVENTORS> ASBURY J R; MALAN V R; WOLL B D|
NC- 022|
NP- 008|
PN- WO 9404940 A1 19940303 WO 93US7505 A 19930809 G01S-013/00 199410 B
PN- US 5302956 A 19940412 US 92930066 A 19920814 G01S-013/00 199414
PN- AU 9350033 A 19940315 AU 9350033 A 19930809 G01S-013/00 199428
PN- EP 655141 A1 19950531 WO 93US7505 A 19930809 G01S-013/00 199526
<AN> EP 94908067 A 19930809
PN- EP 655141 A4 19951220 EP 94908067 A 19940000 G01S-013/00 199627
PN- AU 672821 B 19961017 AU 9350033 A 19930809 G01S-013/93 199649
PN- BR 9306885 A 19981208 BR 936885 A 19930809 G01S-013/00 199903
<AN> WO 93US7505 A 19930809

PN- CA 2141546 C 1999[illegible] CA 2141546 A 19930809 G01S[illegible]13/93 199931|
AN- <LOCAL> WO 93US7505 A 19930809; US 92930066 A 19920814; AU 9350033 A 19930809; WO 93US7505 A 19930809; EP 94908067 A 19930809; EP 94908067 A 19940000; AU 9350033 A 19930809; BR 936885 A 19930809; WO 93US7505 A 19930809; CA 2141546 A 19930809|
AN- <PR> US 92930066 A 19920814|
CT- US 29401; US 4110754; US 4335383; US 4673937; US 5181038; EP 367404; US 3863253|
FD- WO 9404940 A1
<DS> (National): AU BR CA KR
<DS> (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
FD- AU 9350033 A Based on WO 9404940
FD- EP 655141 A1 Based on WO 9404940
<DS> (Regional): AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
FD- AU 672821 B Previous Publ. AU 9350033
Based on WO 9404940
FD- BR 9306885 A Based on WO 9404940|
LA- WO 9404940(E<PG> 67); US 5302956(21); EP 655141(E<PG> 1)|
DS- <NATIONAL> AU BR CA KR|
DS- <REGIONAL> AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; LI|
AB- <BASIC> WO 9404940 A

The system has a transceiver to transmit, receive and compare the frequencies of at least two signals, generating a time-multiplexed output. Front-end electronics, coupled to the transceiver, digitise the time-multiplexed signal, producing an interleaved **sequence** of digital data words, with each subsequence corresponding to one frequency.

A digital electronics circuit determines the presence of targets, calculating the range of each one and its relative speed w.r.t. the vehicle. The circuit has at least one digital signal processor and one microcontroller. A display and sensor unit is coupled to the microcontroller and indicates the presence of selected targets.

ADVANTAGE - System is very flexible, inexpensive, stable over range of temp., and compact. It is simplified by using only two channels, without loss of functionality.

Dwg.3/9|

AB- <US> US 5302956 A

The vehicular collision avoidance radar system uses digital signal processing techniques including a transmit section that generates a two channel transmit frequency. An antenna both transmits the transmit signal and receives a reflected receive signal. A Schottky diode **mixer** generates a difference signal having a frequency equal to the transmit frequency minus the receive frequency. A signal switch in a front end electronics section time demultiplexes and samples the channel 1 and channel 2 signals. The samples are coupled to a two-channel analogue to digital (A/D) converter.

A digital electronics section receives the digital information and performs a Fast Fourier Transform (FFT) on each channel of digital data to determine relative speed and range of a target based upon the frequency and the difference in phase of the two channels. The digital electronics section also receives **information** regarding the **status** of vehicle operation and/or controls to determine the degree of danger presented by an identified target.

ADVANTAGE - Simplified system in which only two frequencies are broadcast and in which larger position of transmit signal is useful.

(Dwg.3/9|

DE- <TITLE TERMS> VEHICLE; RADAR; SYSTEM; AID; COLLIDE; AVOID; TWO; CHANNEL ; FREQUENCY; DIGITAL; PROCESS; PERFORMANCE; FAST; FOURIER; TRANSFORM; DETERMINE; TARGET; RELATIVE; SPEED; RANGE|
DC- T01; U22; W06; X22|
IC- <MAIN> G01S-013/00; G01S-013/93|
IC- <ADDITIONAL> G01S-013/52; G01S-013/60|
MC- <EPI> T01-J04B1; U22-G05B; W06-A04A2; W06-A04E9; W06-A04G3; W06-A04H1; X22-J05A|
FS- EPI||

26/4/8 (Item 8 from file: 351)

IM- *Image available*
AA- 94-049098/199406|
XR- <XRPX> N94-038572|
TI- Recalibration appts. e.g. for flame atomic absorption or inductively-coupled plasma spectrophotometer - alternately pumps fluid sample reagent mixture to sensor while piston pumps refill with standard in one half of cycle, and delivers standards to sensor while pump reloads with mixture in other half|
PA- IONODE PTY LTD (IONO-N)|
AU- <INVENTORS> PEACHEY R M; PETTY J D|
NC- 002|
NP- 003|
PN- WO 9402945 A1 19940203 WO 93AU356 A 19930716 G12B-013/00 199406 B
PN- AU 9345488 A 19940214 AU 9345488 A 19930716 G12B-013/00 199425
<AN> WO 93AU356 A 19930716
PN- US 5547875 A 19960820 WO 93AU356 A 19930716 G01N-035/08 199639
<AN> US 95367145 A 19950110|
AN- <LOCAL> WO 93AU356 A 19930716; AU 9345488 A 19930716; WO 93AU356 A 19930716; WO 93AU356 A 19930716; US 95367145 A 19950110|
AN- <PR> AU 923588 A 19920717|
CT- DE 3632698; EP 36171; US 4441374|
FD- AU 9345488 A Based on WO 9402945
FD- US 5547875 A Based on WO 9402945|
LA- WO 9402945(E<PG> 22); US 5547875(7)|
AB- <BASIC> WO 9402945 A

The appts. comprises two piston pumps (1, 2) which direct standards (11, 12) to a junction (27) with the combined flow passing through a **mixer** (16), past a sensor (17) and through a two way valve (10) to waste (15). The piston pumps are driven by stepper motors, cams or servo controls to produce the required piston movement to construct the standard gradients as required during recalibration.

During one half cycle of operation, sample measurements are made with samples (14) and reagent (13) being directed by a positive piston pump (3) and a suction pump (4) through the **mixer** and sensor. Recalibration takes place during the other half cycle. Valves (5, 6, 7, 8, 9, 10) are opened and closed on each half cycle to direct the samples and standards respectively to the sensor.

ADVANTAGE - Provides rapid and effective internal recalibration. Reduces manual preparations of solutions, provides continuous re-calibration, and continual monitoring of instrumental drift and chemical and physical matrix effects. Provides automation of method of standard additions and of sample bracketing, repeatability, ready accumulation of quality assurance **data** and **maintenance** of high throughput despite longer run time as each pump cycle produces working curve and analytical measurement.

Dwg.1/4|

AB- <US> US 5547875 A

A recalibrating apparatus comprising:

pump means for delivery of a fluid sample, reagent or sample/reagent mixture to a fluid junction;

first and second piston pump fluid delivery systems for delivery at first and second flow rates respectively of first and second fluid standards to said fluid junction;

conduit means providing fluid flow communication between said fluid junction and sensor means;

mixing means to mix said first and second fluid standards upstream of said sensor means relative to a fluid flow direction;

sensor means responsive to a fluid condition of said fluid sample, reagent or sample/reagent mixture and responsive to a fluid condition in said first standard, said second standard or mixtures thereof;

flow rate control means operatively coupled to at least one of said first or second piston pump fluid delivery systems for controllably varying a flow rate thereof to produce a plurality of ratios of said first and second flow rates in accordance with a **sequence** of functional steps, each of which steps is defined by at least one of a

distinct flow rate ratio, a series of distinct flow rate ratios, a distinct gradient of flow rate ratios, or a series of distinct gradients of flow rate ratios;

said flow rate control means operatively coupled to said pump means and said first and second piston pump fluid delivery systems for operating said pump means and said first and second delivery systems in reciprocal modes of a pumping cycle so that in one half cycle said pump means delivers said fluid sample, reagent or sample/reagent mixture to said sensor means while said first and second piston pump systems refill with first and second standards respectively, and in the other half cycle said first and second piston pump systems deliver said first and second fluid standard and mixtures thereof to said sensor means while said pump means reloads with sample or sample/reagent mixture;

and wherein the condition of said sample or sample/reagent mixture detected by said sensor is compared to the condition of said first and second fluid standards and/or mixtures thereof detected by said sensor to effect calibration of said sample.

Dwg.1/4|

DE- <TITLE TERMS> RECALIBRATION; APPARATUS; FLAME; ATOMIC; ABSORB; INDUCTIVE; COUPLE; PLASMA; SPECTROSCOPE; ALTERNATE; PUMP; FLUID; SAMPLE ; REAGENT; MIXTURE; SENSE; PISTON; PUMP; REFILL; STANDARD; ONE; HALF; CYCLE; DELIVER; STANDARD; SENSE; PUMP; MIXTURE; HALF|
DC- S03|
IC- <MAIN> G01N-035/08; G12B-013/00|
MC- <CPI> L03-B03A|
MC- <EPI> S03-A02B; S03-A05C; S03-E04A5; S03-E04D; S03-E04P|
FS- EPI||

26/4/9 (Item 9 from file: 351)

DIALOG(R)File 351:DERWENT WPI

AA- 93-301764/199338|
XR- <XRPX> N93-232053|
TI- Data transceiver using leased four-wire communication channel - has decoder on reception side connected via descrambler to input of commutator|
PA- COMMUNICATIONS RES INST (COME)|
AU- <INVENTORS> BOGRAD A M; IZRAILSON L G|
NC- 001|
NP- 001|
PN- SU 1764179 A1 19920923 SU 4773694 A 19891225 H04L-025/40 199338 B |
AN- <LOCAL> SU 4773694 A 19891225|
AN- <PR> SU 4773694 A 19891225|
LA- SU 1764179(5)|
AB- <BASIC> SU 1764179 A

The data transceiver additionally includes two commutators (15,16) and call signal source (17) both incorporated on the transmitting side, and commutator (20), two decoders (21,22), and call signal detector (23) all incorporated on the receiving side. One call signal detector (23) input is connected to a digital receiver input.

A signal from a data source arrives from second data input (19) of the transmitter (3) via commutator, **scrambler** , and second commutator at the pulse **sequence** shaper (6), where **data train** coding and transmitted signals spectrum shaping are performed. The signal from the output of the communication channel arrives at the receiver (9) data input (14) and then at the pulse **sequence** shaper (11), where preliminary automatic regulation of the level is carried out.

USE/ADVANTAGE - Electrical communication. Transmitting data via leased four-wire channels. Increased transmitted data volume. Bul.35/23.9.92

Dwg.1/1|

DE- <TITLE TERMS> DATA; TRANSCEIVER; FOUR; WIRE; COMMUNICATE; CHANNEL; DECODE; RECEPTION; SIDE; CONNECT; DESCRAMBLER; INPUT; COMMUTATE|
DC- W01|
IC- <MAIN> H04L-025/40|

MC- <EPI> W01-A08A|
FS- EPI||

26/4/10 (Item 10 from file: 351)
DIALOG(R)File 351:DERWENT WPI

AA- 93-157310/199319|
XR- <XRAM> C93-069689|
TI- Meat compsn. for prodn. of dietary chicken sausages - contains chicken stomachs, hearts, livers, blanched skins and fat, wheat flour and chicken broth|
PA- BELO MEAT DAIRY IND RES CONSTR TECHN (BMEA-R)|
AU- <INVENTORS> BELSKAYA G G; SUDAKOV N V; USOVA N I|
NC- 001|
NP- 001|
PN- SU 1708256 A1 19920130 SU 4819644 A 19900312 A23L-001/315 199319 B |
AN- <LOCAL> SU 4819644 A 19900312|
AN- <PR> SU 4819644 A 19900312|
LA- SU 1708256(4)|
AB- <BASIC> SU 1708256 A
Meat compsn. for prodn. of dietary sausages contains (in wt.%): boiled chicken stomachs 23-38, boiled chicken hearts 7-10, blanched chicken livers 8-11, blanched chicken skin 24-26, molten chicken fat 4-6, wheat flour 4-5 and balance chicken stock (broth).
The mixt. also contains (in wt.%): cooking salt 1.7, pepper 0.7, ground coriander 0.5 and ground caraway **seeds** . Chicken skins, after blanching, are minced to pulp in a colloidal mill. Stomachs, hearts and liver are also minced to particle sice 8-12 mm. Chicken stock is obtd. during boiling of hearts and stomachs and blanching of liver skins. The components are added to a **mixer** in **sequence** as follows: stomachs, hearts, liver, skins, molten fat, stock, wheat flour and spices. Thus prepd. mass is mixed for further 3 min. and stuffed into artificial or natural skins. Sausages are cooked at steam-cooking chambers at 85 deg.C for 1.0-2.5 hrs, depending on dia. of sausage.
Tests show that produced dietary sausages have pleasant taste and aroma, compact consistency, tasting mark up to 4.8 relative units and light-brown colouration. The content of protein is 17.1-17.4%, fat 17.2-17.3% and calorific value 185.5-189.4 kcal/100 g, compared to 16.3%, 18.5% and 197.3 kcal/100 g for the prod. obtd. using the known compsn.
USE/ADVANTAGE - In food industry, for prodn. of dietary sausages based on chicken meat. Produced sausages have improved taste and aroma and higher dietary characteristics. Bul.4/30.1.92
Dwg.0/0|
DE- <TITLE TERMS> MEAT; COMPOSITION; PRODUCE; DIET; CHICKEN; SAUSAGE; CONTAIN; CHICKEN; STOMACH; HEART; LIVER; BLANCH; SKIN; FAT; WHEAT; FLOUR; CHICKEN; BROTH|
DC- D12|
IC- <MAIN> A23L-001/315|
IC- <ADDITIONAL> A22C-011/00|
MC- <CPI> D02-A03C|
FS- CPI||

26/4/11 (Item 11 from file: 351)
DIALOG(R)File 351:DERWENT WPI

IM- *Image available*
AA- 92-001152/199201|
XR- <XRPX> N92-000947|
TI- Digital **mixer** circuit for video signal - has weighting coefficient comprising **binary** **number** with several bits, each applied to respective selector as control signal|
PA- MATSUSHITA ELEC IND CO LTD (MATU)|

AU- <INVENTORS> KAWAMOT[redacted]|
NC- 005|
NP- 003|
PN- EP 462799 A 19911227 EP 91305501 A 19910618 199201 B
PN- JP 4053369 A 19920220 JP 90163322 A 19900621 199214
PN- EP 462799 A3 19930512 EP 91305501 A 19910618 199402|
AN- <LOCAL> EP 91305501 A 19910618; JP 90163322 A 19900621; EP 91305501 A 19910618|
AN- <PR> JP 90163322 A 19900621|
CT- NoSR.Pub; 2.Jnl.Ref; EP 372490; JP 1058111; JP 63054071|
FD- EP 462799 A
<DS> (Regional): DE FR GB IT|
LA- JP 4053369(6)|
DS- <REGIONAL> DE; FR; GB; IT|
AB- <BASIC> EP 462799 A
The **mixer** comprises a number of selectors for obtaining an input signal for each predetermined bit length among a number of input signals on the basis of a predetermined weighting coefficient. A number of selected **data trains** shorter in bit length than the input signal are produced. A number of circuits add a number of selected **data trains** for each bit length selected by several selectors and calculates the sum of the selected **data trains** .
The weighting coefficient includes a **number** of **binary** digits and each of the selectors is selected in accordance with the contents of each of the bits.
ADVANTAGE - Reduced number of adder gates required. (9pp Dwg.No.2/3|
DE- <TITLE TERMS> DIGITAL; MIX; CIRCUIT; VIDEO; SIGNAL; WEIGHT; COEFFICIENT; COMPRISE; BINARY; NUMBER; BIT; APPLY; RESPECTIVE; SELECT; CONTROL; SIGNAL|
DC- W04|
IC- <ADDITIONAL> H04H-007/00; H04N-005/26|
MC- <EPI> W04-N05B|
FS- EPI||

26/4/12 (Item 12 from file: 351)
DIALOG(R)File 351:DERWENT WPI
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IM- *Image available*
AA- 91-150251/199121|
XR- <XRPX> N91-115375|
TI- Control system for access to broadcast transmissions - produces **seed** for decoders of subscriber receivers to de-scramble broadcast|
PA- NEWS DATACOM LTD (NEWS-N); NEWS DATA SECURITY (NEWS-N); COHEN M (COHE-I); HASHKES J (HASH-I); NEWS DATA SECURITY PROD LTD (NEWS-N)|
AU- <INVENTORS> COHEN M; HASHKES J|
NC- 019|
NP- 012|
PN- EP 428252 A 19910522 EP 90310131 A 19900917 199121 B
PN- AU 9062306 A 19910523 199128
PN- CA 2025585 A 19910515 199130
PN- JP 3210843 A 19910913 JP 90308448 A 19901114 199143
PN- EP 428252 A3 19920603 EP 90310131 A 19900917 199332
PN- AU 642157 B 19931014 AU 9062306 A 19900907 H04N-007/167 199348
PN- US 5282249 A 19940125 US 90611960 A 19901109 H04L-009/00 199405
<AN> US 92993823 A 19921218
PN- IL 92310 A 19940530 IL 92310 A 19891114 H04L-029/02 199424
PN- US 5481609 A 19960102 US 90611960 A 19901109 H04L-009/32 199607
<AN> US 92993823 A 19921218
<AN> US 93119734 A 19930910
PN- EP 428252 B1 19971126 EP 90310131 A 19900917 H04N-007/167 199801
PN- DE 69031757 E 19980108 DE 631757 A 19900917 H04N-007/167 199807
<AN> EP 90310131 A 19900917
PN- ES 2111531 T3 19980316 EP 90310131 A 19900917 H04N-007/167 199817|
AN- <LOCAL> EP 90310131 A 19900917; JP 90308448 A 19901114; EP 90310131 A 19900917; AU 9062306 A 19900907; US 90611960 A 19901109; US 92993823 A

19921218; IL 92310 A 19891114; US 90611960 A 19901031; US 92993823 A 19921218; US 93119734 A 19930910; EP 90310131 A 19900917; DE 631757 A 19900917; EP 90310131 A 19900917; EP 90310131 A 19900917|
AN- <PR> IL 92310 A 19891114|
CT- NoSR.Pub; DE 1083311; DE 3640680; EP 200310; WO 8802899|
FD- EP 428252 A
<DS> (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE
FD- AU 642157 B Previous Publ. AU 9062306
FD- US 5282249 A Cont of US 90611960
FD- US 5481609 A Cont of US 90611960
Cont of US 92993823
Cont of US 5282249
FD- EP 428252 B1
<DS> (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE
FD- DE 69031757 E Based on EP 428252
FD- ES 2111531 T3 Based on EP 428252|
LA- EP 428252(96); EP 428252(96); US 5282249(13); US 5481609(97); EP 428252 (E<PG> 20)|
DS- <REGIONAL> AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE; DK|
AB- <BASIC> EP 428252 A

The system has a transmitter having an encoder for scrambling a broadcast. A multiplicity of subscriber receivers each have an identical receiving decoder, containing no secret **cryptographic keys**, for descrambling the broadcast.

Selectable and portable executing circuits are associated with a receiving decoder at a partially different given time. They each execute generally identical operations to generate a **seed** for use by the associated receiving decode to enable it to descramble the broadcast.

USE/ADVANTAGE - For audio and/or video transmitted by wire or wireless techniques. Usable with smart cards or memory cards.

Dwg.1/6|

AB- <EP> EP 428252 B

The system has a transmitter having an encoder for scrambling a broadcast. A multiplicity of subscriber receivers each have an identical receiving decoder, containing no secret **cryptographic keys**, for descrambling the broadcast.

Selectable and portable executing circuits are associated with a receiving decoder at a partially different given time. They each execute generally identical operations to generate a **seed** for use by the associated receiving decode to enable it to descramble the broadcast.

USE/ADVANTAGE - For audio and/or video transmitted by wire or wireless techniques. Usable with smart cards or memory cards.

Dwg.1/6|

AB- <US> US 5481609 A

A system for controlling access to broadcast transmissions comprising:

a transmitter having a transmission **scrambler** for scrambling a broadcast and a satellite in geosynchronous orbit for relaying said broadcast;

a security computer coupled to said transmitter; and

a multiplicity of subscriber receivers, each comprising:

a groundstation for receiving said broadcast relayed from said satellite and a receiving descrambler for descrambling said broadcast; and

a selectable and portable memory means operatively associated with said receiving descrambler, wherein instructions transmitted by said security computer to said receiving descrambler enable said receiving descrambler to employ data stored in said memory means for generating a **seed** used by said receiving descrambler to descramble said broadcast.

Dwg.1/6

US 5282249 A

The system for controlling access to broadcast transmission includes a transmitter having a transmission **scrambler** for scrambling a broadcast, and a multiplicity of subscriber receivers. Each receiver comprises a receiving descrambler for the broadcast signal. The system

also comprises a number of selectable and portable executing devices, each being operatively associated with any one receiving descrambler and each executing identical operations to generate a **seed** for use by the associated receiving descrambler to enable the receiving descrambler to descramble the broadcast. The executing device includes a device for actively executing an algorithm.

Each executing device includes a device for providing instructions and data for an algorithm executed in one descrambler. Each executing device provides all or part of the instructions required to descramble the broadcast. Each executing device comprises a device for providing proof of authenticity to one receiving descrambler, and comprises a public **key** proof of authenticity.

ADVANTAGE - Indicates programming entitlements to descrambler, which are modified by transmitted broadcast data.

Dwg.1/6|

DE- <TITLE TERMS> CONTROL; SYSTEM; ACCESS; BROADCAST; TRANSMISSION; PRODUCE ; **SEED** ; DECODE; SUBSCRIBER; RECEIVE; DE; SCRAMBLE; BROADCAST|

DC- W01; W02|

IC- <MAIN> H04L-009/00; H04L-009/32; H04L-029/02; H04N-007/167|

IC- <ADDITIONAL> G05B-019/42; H04H-001/00; H04K-001/06; **H04L-009/08** ; H04N-007/16|

MC- <EPI> W01-A05; W02-F05A; W02-L|

FS- EPI||

26/4/13 (Item 13 from file: 351)

DIALOG(R)File 351:DERWENT WPI

IM- *Image available*

AA- 89-007722/198901|

XR- <XRPX> N89-005741|

TI- Random-access **pseudo random number** generator for video graphics - uses **seed** number bit scramblers in cascade connection governing scrambling pattern by control numbers|

PA- TECHNOLOGY INC (TECH-N)|

AU- <INVENTORS> HARNEY K; KEITH M|

NC- 001|

NP- 001|

PN- US 4791594 A 19881213 US 86845146 A 19860328 198901 B |

AN- <LOCAL> US 86845146 A 19860328|

AN- <PR> US 86845196 A 19860328; US 86845146 A 19860328|

LA- US 4791594(7)|

AB- <BASIC> US 4791594 A

The generator includes a device for providing **seed** number in multi-bit digital format. A device has an input port coupled to the **seed** number device, a control input terminal and an output port, for rearranging the order of bits of the **seed** number responsive to the control number applied to the input port. A device is coupled to the output port for rearranging, for providing the control number to input terminal. The rearranging device includes a number of bit scramblers in a cascade connection having input and output ports and input terminal to which a bit of the control number is applied.

The **seed** number is applied to the input port of the first **scrambler** in the cascade. Each **scrambler** applies the number received at its input port to its output port if the control number bit has a first value, or rearranges the bits in the received number received and applies the rearranged number to its output port if the control number bit has a second value.

ADVANTAGE - Given pixel will always have same colour and luminous regardless of order in which pixels are displayed.

2/4|

DE- <TITLE TERMS> RANDOM; ACCESS; PSEUDO; RANDOM; NUMBER; GENERATOR; VIDEO; GRAPHIC; **SEED** ; NUMBER; BIT; CASCADE; CONNECT; GOVERN; SCRAMBLE; PATTERN; CONTROL; NUMBER|

DC- T01|

IC- <ADDITIONAL> G06F-001/02|

MC- <EPI> T01-C04; T01-[redacted]; T01-J10C|
FS- EPI||

26/4/14 (Item 14 from file: 351)
DIALOG(R)File 351:DERWENT WPI
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IM- *Image available*
AA- 88-362096/198851|
XR- <XRPX> N88-274240|
TI- Duplex analogue frequency inversion **scrambler** - exchanges **random number seeds** with counterpart **scrambler** to create two pseudo-random frequency-hopping rolling codes|
PA- MOTOROLA INC (MOTI)|
AU- <INVENTORS> HOUGHTON M W; MARRY P J; WELLENSTEI N N; WILSON G P; WELLENSTEIN N N|
NC- 022|
NP- 014|
PN- EP 295580 A 19881221 EP 88109249 A 19880610 198851 B
PN- WO 8810541 A 19881229 WO 88US1882 A 19880602 198903
PN- US 4827507 A 19890502 US 8765220 A 19870619 198920
PN- NO 8900648 A 19890417 198921
PN- FI 8900417 A 19890127 198940
PN- DK 8900012 A 19890103 198946
PN- BR 8807099 A 19891017 198947
PN- CN 1030658 A 19890125 198950
PN- CA 1277712 C 19901211 199104
PN- IL 86056 A 19911121 199151
PN- JP 4504188 W 19920723 JP 88506889 A 19880602 H04K-001/04 199236
<AN> WO 88US1882 A 19880602
PN- FI 92004 B 19940531 WO 88US1882 A 19880602 H04K-001/04 199424
<AN> FI 89417 A 19890127
PN- NO 177449 B 19950606 WO 88US1882 A 19880602 H04K-001/04 199528
<AN> NO 89648 A 19890216
PN- KR 9608610 B1 19960628 WO 88US1882 A 19880602 H04K-001/04 199920
<AN> KR 89700276 A 19890216|
AN- <LOCAL> EP 88109249 A 19880610; WO 88US1882 A 19880602; US 8765220 A 19870619; JP 88506889 A 19880602; WO 88US1882 A 19880602; WO 88US1882 A 19880602; FI 89417 A 19890127; WO 88US1882 A 19880602; NO 89648 A 19890216; WO 88US1882 A 19880602; KR 89700276 A 19890216|
AN- <PR> US 8765220 A 19870619; WO 88US1882 A 19880602|
CT- A3...9020; EP 90771; No-SR.Pub; US 3824468; US 4228321; US 4581765; US 3651404; US 3688193; US 4200770; US 4218582; US 4221931; US 4268720; US 4351982|
FD- EP 295580 A
<DS> (Regional): AT BE CH DE ES FR GB IT LI LU NL SE
FD- WO 8810541 A
<DS> (National): BR DK FR JP KR NO
FD- JP 4504188 W Based on WO 8810541
FD- FI 92004 B Previous Publ. FI 8900417
FD- NO 177449 B Previous Publ. NO 8900648|
LA- EP 295580(E<PG> 29); WO 8810541(E); US 4827507(28); JP 4504188(18)|
DS- <NATIONAL> BR DK FR JP KR NO|
DS- <REGIONAL> AT; BE; CH; DE; ES; FR; GB; IT; LI; LU; NL; SE|
AB- <BASIC> EP 295580 A

Audio signals from the microphone of a telephone instrument (101) are coupled to an input of the duplex analogue **scrambler** (103), frequency-inverted and applied as scrambled audio via a hybrid coupler and balanced wire pair to the public switched network. At the receiving end a second **scrambler** (107) reinverts the scrambled audio into an intelligible signal for the earpiece of another telephone instrument (105). The rolling code used in one direction differs from that used in the other direction and both are synchronised periodically.

USE/ADVANTAGE - Esp. in cellular radiotelephone system, independent scrambling and descrambling in each direction provides additional security, in that unauthorised code-breaking on one half of duplex channel will not lead easily to code-breaking on other half|

AB- <US> US 4827507 A

The analog audio frequency band **scrambler** provides security of communications over a channel by sequentially frequency inverting an unsecure message for transmission as a secure message on the channel to another analog audio frequency band **scrambler** and by sequentially frequency reinverting a secure second message received from the second **scrambler** on the channel. The **scrambler** consists of a device for exchanging a **seed** number for another **seed** number with the second **scrambler** . A device generates from the exchanged two **seed** numbers a first code where at least part of which starts the sequential frequency inverting of the unsecure first message and a second code and at least part of which starts the sequential frequency reinverting of the secure second message.

A device transmits a code synchronisation signal on the channel and for receiving a second code synchronisation signal from the channel. The frequency reinverting of the secure first message at the second scramber may be synchronised to the first code synchronisation signal and the second code may be synchronised to the second code synchronisation signal.

ADVANTAGE - Improved security, reduced complexity and cost|

DE- <TITLE TERMS> DUPLEX; ANALOGUE; FREQUENCY; INVERT; SCRAMBLE; EXCHANGE; RANDOM; NUMBER; **SEED** ; COUNTERPART; SCRAMBLE; TWO; PSEUDO; RANDOM; FREQUENCY; HOP; ROLL; CODE|
DE- <ADDITIONAL WORDS> VOICE; BAND; COMMUNICATE|
DC- P85; W01; W02|
IC- <MAIN> H04K-001/04|
IC- <ADDITIONAL> G09C-001/10; H04L-009/04|
MC- <EPI> W01-B05; W01-C08X; W02-C03C; W02-L|
FS- EPI; EngPI||

26/4/15 (Item 15 from file: 351)
DIALOG(R)File 351:DERWENT WPI

AA- 88-082510/198812|
XR- <XRAM> C88-037425|
XR- <XRPX> N88-062340|
TI- Installation determining quality of animal feed mixing - has **mixer** that receives portions of feed with control ferromagnetic ingredient, with mixing quality sensors|
PA- UKR AGRIC MECH ELEC (UAGM)|
AU- <INVENTORS> DESHKO V I; KUKTA G M; YASENETSKI V A|
NC- 001|
NP- 001|
PN- SU 1329756 A 19870815 SU 4033455 A 19860517 198812 B |
AN- <LOCAL> SU 4033455 A 19860517|
AN- <PR> SU 4033455 A 19860517|
LA- SU 1329756(3)|
AB- <BASIC> SU 1329756 A

In **sequence** there are feeders and measuring devices for the feed, measuring device for the control ingredient, **mixer** with take-away conveyor, and devices to test the quality of feed and register and the control ingredient.

An additional conveyor, amplifier, and analysing unit are also provided, the test device being made as diamagnetic plates with strain gauges on rods placed across the moving feed and vertical to the discharge end.

Recorder is a frame-induction sensor, the rectangular frame around the flow of feed. To the flow of feed coming from the measuring devices onto the conveyor, the control ingredient (beet **seed** with ferromagnetic coating is added).

The mixture is conveyed to a receiving hopper and onto another conveyor belt moving at a speed (at least 3m/sec) to deflect a plate by an amount proportional to the quantity of flowing material.

Signals from strain gauges are amplified to analysing unit.

Another sensor detects the ferromagnetic particles and the signals

are compared to determine coefft. of particle variation. USE/ADVANTAGE - In agricultural machinery building, e.g. a device for testing and investigating animal-feed mixing lines. The determn. of the quality of mixing is accelerated. Bul.30/15.8.87 (3pp Dwg.No.0/2|
DE- <TITLE TERMS> INSTALLATION; DETERMINE; QUALITY; ANIMAL; FEED; MIX; MIX; RECEIVE; PORTION; FEED; CONTROL; FERROMAGNETIC; INGREDIENT; MIX; QUALITY; SENSE|
DC- D14; X25|
IC- <ADDITIONAL> A23N-017/00|
MC- <CPI> D03-K04|
MC- <EPI> X25-J; X25-N02A|
FS- CPI; EPI||

26/4/16 (Item 16 from file: 351)
DIALOG(R)File 351:DERWENT WPI

AA- 87-078396/198711|
XR- <XRPX> N87-059151|
TI- Digital frequency meter - has digital frequency meter with input from first input of **mixer** and output to control **input** of **reference** frequency synthesiser|
PA- KOROVIN R V (KORO-I)|
AU- <INVENTORS> ALESHIN G V; SIDORENKO O P|
NC- 001|
NP- 001|
PN- SU 1246017 A 19860723 SU 3531951 A 19821230 198711 B |
AN- <LOCAL> SU 3531951 A 19821230|
AN- <PR> SU 3531951 A 19821230|
LA- SU 1246017(3)|
AB- <BASIC> SU 1246017 A
Initially LF meter (2) and frequency meter (9) are cleared and digital frequency meter (9) then carries out a rough measurement of the test frequency, with an accuracy depending on selection of the length of the measurement interval. To eliminate excessive readings, the moment of formation of the measurement interval is linked to the moment of decrease of one of the impulses of the test **sequence** and a code of the interval passes to indicator (3). The code is also converted by frequency divider (8) into a coefft. to adjust phase detector (6), also receiving a reference frequency signal from generator (5). The frequency from HF generator (7) is equal to the rough measurement and is passed to **mixer** (1), where it is compared to the test frequency. The difference frequency passes to LF meter (2) and is measured. The result of measurement is recorded in the indicator, displaying all values of the test frequency.
USE - Accurate measurement of frequencies. Bul.27/23.7.86 (3pp Dwg.No.1/1|
DE- <TITLE TERMS> DIGITAL; FREQUENCY; METER; DIGITAL; FREQUENCY; METER; INPUT; FIRST; INPUT; MIX; OUTPUT; CONTROL; INPUT; REFERENCE; FREQUENCY; SYNTHESISER|
DC- S01|
IC- <ADDITIONAL> G01R-023/14|
MC- <EPI> S01-D03X|
FS- EPI||

26/4/17 (Item 17 from file: 351)
DIALOG(R)File 351:DERWENT WPI

AA- 86-231744/198635|
XR- <XRPX> N86-173072|
TI- Electronic monitoring and warning appts. for scuba diving - produces periodic tone which has frequency proportional to depth and is modulated as warning|
PA- HOFFMAN & GOODE (HOFF-N)|

AU- <INVENTORS> HOFFMAN B|
NC- 001|
NP- 001|
PN- US 4604737 A 19860805 US 83514317 A 19830715 198635 B
|
AN- <LOCAL> US 83514317 A 19830715|
AN- <PR> US 83514317 A 19830715|
LA- US 4604737(16)|
AB- <BASIC> US 4604737 A
The appts. detects pressure using a bellows transducer (12). A variable frequency oscillator (10) produces an output in proportion to the pressure applied to the transducer (12). A local oscillator (16) produces a fixed frequency signal which is mixed with the variable frequency signal in a **mixer** -demodulator (14) to produce an audio depth signal. The audio depth signal is provided to up/down counters (30). A time base and synchronizer circuit (24) **sequences** the counters (30) for an up frequency count and a down frequency count of the audio depth signal. When the difference count exceeds a preset limit, a maximum rate of depth change circuit (34) produces an alarm signal which is transmitted through a beep timer circuit (36) to activate an audio driver and output circuit (28) which produces alarm signal at an audio disk (38). This gives a warning of too rapid of an ascent or descent by the diver.
The maximum depth circuit (32) detects the maximum up-count produced by the counters (30) and if the count is above a preset limit, an alarm is output through the audio driver and output circuit (28) to the audio disk (38) to warn the driver of an excessive depth. The electronic diving apparatus produces a periodic tone which has a frequency proportional to depth. Warning signals are indicated by modulating the tone or by increasing the duty cycle.
ADVANTAGE - Provides continual dive **status information** to diver. (16pp Dwg.No.1/10)|
DE- <TITLE TERMS> ELECTRONIC; MONITOR; WARNING; APPARATUS; SCUBA; DIVE; PRODUCE; PERIODIC; TONE; FREQUENCY; PROPORTION; DEPTH; MODULATE; WARNING|
DC- S02; W02; W06|
IC- <ADDITIONAL> G06F-015/42; H04B-011/00|
MC- <EPI> S02-F04E; S02-F04X; W02-C09; W06-C09|
FS- EPI||

26/4/18 (Item 18 from file: 351)
DIALOG(R)File 351:DERWENT WPI

AA- 85-238264/198539|
XR- <XRPX> N85-178239|
TI- De-**scrambler** subscriber **key** production system - uses **key seeds** stored in secure memory in de-**scrambler** and subscriber **key** generator|
PA- CABLE HOME COMMUNICATION CORP (CABL-N); TITAN CORP (TITA-N); CABLE HOME COMMUNICATION (CABL-N); M/A-COM LINKABIT IN (MACO-N)|
AU- <INVENTORS> MOERDER K E; MOEDER K E|
NC- 017|
NP- 010|
PN- EP 155762 A 19850925 EP 85300983 A 19850214 198539 B
PN- AU 8539540 A 19850919 198545
PN- NO 8500986 A 19851007 198547
PN- DK 8500850 A 19850916 198550
PN- JP 61016643 A 19860124 JP 8548433 A 19850313 198610
PN- US 4634808 A 19870106 US 84589741 A 19840315 198704
PN- CA 1225458 A 19870811 198736
PN- EP 155762 B 19900725 199030
PN- DE 3578792 G 19900830 199036
PN- DK 166247 B 19930322 DK 85850 A 19850225 H04N-007/167 199317|
AN- <LOCAL> EP 85300983 A 19850214; JP 8548433 A 19850313; US 84589741 A 19840315; DK 85850 A 19850225|
AN- <PR> US 84589741 A 19840315|

CT- 2.Jnl.Ref; A3...872 EP 127381; No-SR.Pub; US 43886
FD- EP 155762 A
<DS> (Regional): AT BE CH DE FR GB IT LI LU NL SE
FD- EP 155762 B
<DS> (Regional): AT BE CH DE FR GB IT LI LU NL SE
FD- DK 166247 B DK 8500850|
LA- EP 155762(E<PG> 24)|
DS- <REGIONAL> AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE|
AB- <BASIC> EP 155762 A

A scrambled signal is received together with an **encrypted key** signal, a **key** generation number and an address for accessing a predetermined area in a memory. A circuit provides a subscriber **key** generation signal that is unique to the descrambler. A generator reproduces the unique subscriber **key** signal by processing the subscriber **key** generation signal in accordance with a predetermined **encryption** algorithm, on the algorithm being keyed by a prescribed subscriber a **key seed** signal unique to the descrambler.

A memory stores the prescribed subscriber **key seed** signal and provides it to **key** the algorithm when the memory is accessed by the address received with the **key** generation number. A circuit accesses the memory with the address reserved with the **key** generation number.

USE/ADVANTAGE - For e.g. controlling distribution of scrambled signals in television subscription system. Has reduced probability ofunauthorised ascertainment and use of **key** signal.

2/4|

AB- <EP> EP 155762 B

A system for reproducing in a descrambler a subscriber **key** signal that is unique to the descrambler and was used in **encrypting** a category **key** signal that must be decrypted for use in descrambling a signal received by the descrambler, wherein the scrambled signal is received by the descrambler together with the **encrypted** category **key** signal, a system **key** generation number and a subscriber **key seed** selection address for accessing a predetermined area in a first memory contained in the descrambler, the system comprising means for providing a subscriber **key** generation signal that is unique to the descrambler by processing said system **key** generation number and a subscriber address which is unique to the descrambler; a subscriber **key** generator for reproducing the said unique subscriber **key** signal by processing the subscriber **key** generation signal in accordance with a predetermined **encryption** algorithm upon said algorithm being keyed by a prescribed subscriber **key** being keyed by a prescribed subscriber **key seed** signal that is unique to the descrambler; said first memory storing the prescribed subscriber **key seed** signal, and for providing the prescribed **seed** signal to **key** the algorithm when the area of the memory containing the prescribed **seed** signal is accessed by said address received with the received **key** generation number; and means for accessing said first memory with said subscriber **key seed** selection address received with the received system **key** generation number; wherein said means for providing said subscriber **key** generation signal comprises a second **key** generator for producing the system subscriber **key** generation signal by processing a said system **key** generation number and said subscriber address in accordance with a second prescribed subscriber **key seed** signal that is unique to the descrambler; and said first memory also stores said second prescribed subscriber **key seed** signal and provides this second prescribed **seed** signal to **key** the second algorithm when the ar|

AB- <US> US 4634808 A

The system provides a subscriber **key** generation signal. A subscriber **key** generator reproduces the unique subscriber **key** signal by processing the subscriber **key** generation signal in accordance with a predetermined **encryption** algorithm upon the algorithm being keyed by a prescribed subscriber **key seed** signal that is unique to the descrambler. A memory stores the prescribed subscriber **key seed** signal, and provides the prescribed **seed** signal to **key** the algorithm when the area of the memory containing the prescribed **seed** signal is accessed by the address received with the received **key** generation number.

A device accesses the memory with the received address. The memory

stores a number of different subscriber **key** **seed** signals, with the prescribed one of the **seed** signals being provided to **key** the algorithm in accordance with the received address.

USE - For subscriber communication network. (10pp)e|

DE- <TITLE TERMS> DE; SCRAMBLE; SUBSCRIBER; **KEY** ; PRODUCE; SYSTEM; **KEY** ; **SEED** ; STORAGE; SECURE; MEMORY; DE; SCRAMBLE; SUBSCRIBER; **KEY** ; GENERATOR|

DC- W02; W03|

IC- <MAIN> H04N-007/167|

IC- <ADDITIONAL> H04K-001/00; H04L-009/04; H04N-007/16|

MC- <EPI> W02-F05; W02-L; W03-A20|

FS- EPI||

26/4/19 (Item 19 from file: 351)

DIALOG(R)File 351:DERWENT WPI

AA- 83-G8202K/198320|

XR- <XRPX> N83-088492|

TI- Audio or voice **scrambler** system with voice signal digitiser - includes **processor** responding to pseudo-random **key** word to **divide** digitised signal into different frequency bands or time slots|

PA- TECH COMMUNICATIONS (TECO-N)|

AU- <INVENTORS> MCCALMONT A M; SLATE M M|

NC- 006|

NP- 004|

PN- WO 8301717 A 19830511 198320 B

PN- EP 93159 A 19831109 198346

PN- US 4433211 A 19840221 US 81317947 A 19811104 198410

PN- CA 1182595 A 19850212 198511|

AN- <LOCAL> US 81317947 A 19811104|

AN- <PR> US 81317947 A 19811104|

CT- US 3723878; US 3921151; US 3970790; US 4020285; US 4058677; US 4149035; US 4188506; US 4221931|

FD- WO 8301717 A

<DS> (Regional): CH DE GB

FD- EP 93159 A

<DS> (Regional): CH DE GB LI|

LA- WO 8301717(E<PG> 28); EP 93159(E)|

DS- <REGIONAL> CH; DE; GB; LI|

AB- <BASIC> WO 8301717 A

The system , e.g. for use over a telephone line, achieves a high level of security for audio bands in the frequency range from about 200 to 3000 hertz. Filters (18,20) divides the input analog audio signal into two bands of equal bandwidth. On of the bands is transposed to shift the higher frequency band, from the filter (20), to the lower frequency band. It is also frequency-inverted. This provides a more regular amplitude distribution which is more difficult to analyse for cadences which facilitate eavesdropping. The frequency translation and inversion are effected by a balanced modulator (22), using a square wave output from an oscillator (24), and a low-pass filter (28). The resulting signal and that from the filter (18) are applied to an analog gate (32) in which voltages are sampled alternately.

Following digital conversion and serial-parallel conversion (36,38) the digital output is applied to a memory (46) from which eight-bit words are read out. These words are retrieved in a pseudo-random fashion with respect to the lengths of the memory **blocks** read out, their order whether from the first or second frequency band, and their direction i.e. forward with time or reversed.|

AB- <US> US 4433211 A

The system splits a voice signal into a selected number of frequency bands; A pseudo-random **key** word is generated. Each band is divided into segments of different time duration in accordance with the pseudo-random **key** word. The signal segments are divided into adjacent frequency bands so that they have non-coincident-in-time boundaries.

The segments are compressed in time and expanded in frequency by a factor equal to the number of frequency bands into which the voice

```
?show files;ds
File 621:Gale Group New Prod.Annou.(R) 1985-1999/Sep 22
         (c) 1999 The Gale Group
File 278:Microcomputer Software Guide 1999/Aug
         (c) 1999 Reed Elsevier Inc.
File 256:SoftBase:Reviews,Companies&Prods. 85-1999/Aug
         (c)1999 Info.Sources Inc
File  15:ABI/INFORM(R) 1971-1999/Sep 20
         (c) 1999 Bell & Howell
File   9:Business & Industry(R) Jul 1994-1999/Sep 23
         (c) 1999 Resp. DB Svcs.
File  13:BAMP 1999/Sep W2
         (c) 1999 Resp. DB Svcs.
File 635:Business Dateline(R) 1985-1999/Sep 20
         (c) 1999 Bell & Howell
File 647:CMP  Computer Fulltext 1988-1999/Sep W2
         (c) 1999 CMP
File 674:Computer News Fulltext 1989-1999/Sep W2
         (c) 1999 IDG Communications
File  98:General Sci Abs/Full-Text 1984-1999/Aug
         (c) 1999 The HW Wilson Co.
File 275:Gale Group Computer DB(TM) 1983-1999/Sep 22
         (c) 1999 The Gale Group
File  16:Gale Group PROMT(R) 1972-1999/Sep 22
         (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-1999/Sep 23
         (c)1999 The Gale Group
File 696:DIALOG Telecom. Newsletters 1995-1999/Sep 22
         (c) 1999 The Dialog Corp.

Set     Items   Description
S1      12807   (SPLIT? OR DIVID? OR SEGMENT? OR PARTITION? OR SEPARAT?)(2-
             N)(KEY OR KEYS OR CIPHER? ?)
S2     158933   SEQUENCE? ? OR BINARY(2N)(SEQUENCE? ? OR NUMBER? ?) OR RAN-
             DOM?(2N)(SEQUENCE? ? OR NUMBER? ?) OR PSEUDO()RANDOM?(2N)(SEQ-
             UENCE? ? OR NUMBER? ?) OR PSEUDORANDOM?(2N)(SEQUENCE? ? OR NU-
             MBER? ?)
S3      21306   RANDOMISER? ? OR RANDOMIZER? ? OR RANDOMISATION OR RANDOMI-
             ZATION OR SCRAMBLER OR MIXER
S4    3141948   KEY OR KEYS OR STREAM OR STREAMS OR KEYSTREAM OR KEYSTREAMS
              OR BLOCK OR BLOCKS OR SYMBOL OR SYMBOLS OR MATRIX OR MATRICES
              OR ARRAY OR ARRAYS
S5     162297   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
             EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
             TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
             ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(DATA OR INPUT)
S6     180045   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
             EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
             TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
             ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(INFORMATION)
S7       2569   S1(7N)(GENERAT? OR SYNTHES? OR BUILD? OR CONSTRUCT? OR CRE-
             AT? OR DEVELOP? OR MAKE OR MAKING OR PROCESS? OR OUTPUT? OR P-
             RODUC?)
S8          0   S3(S)S7
S9         12   S3 AND S7
S10       549   S2(S)S3
S11       108   S4(S)S10
S12         7   (S5:S6)(S)S11
S13        10   S10(S)(S5:S6)
S14        22   S9 OR S12 OR S13
S15        19   RD (unique items)
?t15/3,k/all
>>>KWIC option is not available in file(s): 278

 15/3,K/1     (Item 1 from file: 15)
DIALOG(R)File  15:ABI/INFORM(R)
(c) 1999 Bell & Howell. All rts. reserv.
```

01641854 02-92845
'Bringing it all back home ...'--using RDD telephone methods for large-scale social policy and opinion research in the UK
Noble, Iain; Moon, Nick; McVey, Dominic
Journal of the Market Research Society v40n2 PP: 93-120 Apr 1998
ISSN: 0025-3618 JRNL CODE: JRS
WORD COUNT: 12644

...TEXT: eg the fourth name from the bottom of the second column, and this becomes the **seed** number. Originally ICM then simply added one to the final digit of the number to give a new '**randomised** ' **number** which would then be dialled as part of the survey the classic 'directory plus-one...

... widely in the market research industry. This approach was subsequently modified in two ways: the '**randomisation** ' was carried out using other numbers than just plus-one, and more than one number was taken from each **seed** . Thus for one survey the numbers used might be the directory number plus 1, and...

15/3,K/2 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/INFORM(R)

01608634 02-59623
Overland Data introduces VR2
Gray, Martin D
Computer Technology Review v18n3 PP: 36-40 Mar 1998
ISSN: 0278-9647 JRNL CODE: CTN
WORD COUNT: 1750

...TEXT: of "worst case data recovery circuits. A partial solution to this is the use of **randomization** . **Randomization** is the addition of a predetermined "random" bit pattern to the original data before recording...

... entropy. Even then it can still create region where PLL wander will be significant. A **block** that is same **sequence** on the next **block** . Overland Data addresses this problem with a non-deterministic **randomizer** . Each data **block** contains a randomly generated **seed** , which is used to initialize the state of a **randomizer** bit source. Tfhis **randomizer** output is XOR'ed with the data **block** to produce a non-deterministic output. When reading the data **block** the **randomizer** is initialized by this same **seed** . Therefore, it can decode the data **block** . By combining the non-derterministic **randomizer** with ReedSolomon ECC the effect of degenerate data patterns disappears. As a result, one can...

15/3,K/3 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/INFORM(R)

01039299 96-88692
Starch-based binders offer easy pigment application at size press
Abell, Steve
Pulp & Paper v69n5 PP: 99-105 May 1995
ISSN: 0033-4081 JRNL CODE: PUP
WORD COUNT: 3693

...TEXT: effect that can lead to print appearance problems. There is no way to avoid the **creation** of pattern at the time of film **split** . The **key** is to allow the energy stored in stretched water-soluble polymers by the action of...

... injection to temperatures up to 190degF while being vigorously stirred without damage in a Cowles **mixer** . Partially frozen material can be warmed, stirred, and used ...ppm defoamer to control foam in the system. The synthetic binders were added to the **mixer** last in the addition sequence to minimize shear time, and the maximum allowable temperature of

15/3,K/4 (Item 4 from file: 15)
DIALOG(R)File 15:ABI/INFORM(R)

00942320 95-91712
O2 Delig matures into key process segment **at modern N.A. fiberlines**
Harrison, Andy
Pulp & Paper v68n11 PP: 55-60 Nov 1994
ISSN: 0033-4081 JRNL CODE: PUP
WORD COUNT: 2025

O2 Delig matures into key process segment **at modern N.A. fiberlines**
...TEXT: in lignin content.

Continued research with high-consistency stages led to the development of a **mixer** that could effectively mix oxygen gas in a liquid pulp suspension. From this technology, medium...

...consistency system consists of a washing stage followed by an MC pump, a high-shear **mixer** , an oxygen reactor, a blowtank, and then additional washing. Optimal consistency has been determined to...

15/3,K/5 (Item 5 from file: 15)
DIALOG(R)File 15:ABI/INFORM(R)

00921064 95-70456
Materials separation systems for solid waste composting
Gould, Mark; Meckert, William
BioCycle v35n9 PP: 69-74 Sep 1994
ISSN: 0276-5055 JRNL CODE: BIO
WORD COUNT: 2225

...TEXT: grit, glass, small metal particles and brittle plastic. This material was removed in the wet **separator** , a **key** component of the Daneco **process** , where dense inert materials sink to the bottom of a tank of water, and the...

... the drum, material would wind into 'snakes" despite having been shredded. The pulping in the **mixer** makes it easier to separate out the plastic in subsequent screening and shredding stages.

The... shredded sorted feedstock will be blended with digested liquid biosolids in a four-auger mobile **mixer** truck that will transport the mix to the composting hall. A bin will store the feedstock in the processing area until the **mixer** returns.
The composting process will utilize the horizontal agitated bed technology followed by aerated static...

15/3,K/6 (Item 6 from file: 15)
DIALOG(R)File 15:ABI/INFORM(R)

00808031 94-57423
OTEMAS opens the hi-tech envelope
Isaacs, McAllister III
Textile World v144n1 PP: 35-52 Jan 1994
ISSN: 0040-5213 JRNL CODE: TXW
WORD COUNT: 7245

...ABSTRACT: of some prototypes exhibited before, OTEMAS featured a number of introductions. In the manmade-fiber **production segment** , the **keys** were labor savings through automation and electronic technology providing

control and management [redacted]tems. In staple...
...TEXT: bale opener for up to 600 kg/hr. Equipped with a microcomputer control system, multiple **mixer** MM 6 links to opener Tuftomat TFV1 which can shorten a conventional line considerably. The...

15/3,K/7 (Item 7 from file: 15)
DIALOG(R)File 15:ABI/INFORM(R)

00621994 92-37096
Who Holds the Keys? Debating Data Encryption Standards
Lyons, John W.; Anderson, John C.; Hellman, Martin E.; Rivest, Ronald L.
Communications of the ACM v35n7 PP: 32-54 Jul 1992
ISSN: 0001-0782 JRNL CODE: ACM
WORD COUNT: 14387

...TEXT: NUMBER GENERATION FOR THE DSA

Any implementation of the DSA requires the ability to generate **random numbers** . **Random numbers** are used to derive a user's private **key** and a user's per-message-**random** -secret-**number** These **random numbers** are selected to be between 0 and the 160-bit prime q (as specified in the standard). The numbers can be generated by either a true noise hardware **randomizer** or via a pseudorandom function. Such a function would employ a user-generated and secret " **seed** " **key** to initialize the number generator. The generator then would produce a **stream** of bits or number that could be converted into the integers mod q.

APPENDIX 4...

15/3,K/8 (Item 1 from file: 9)
DIALOG(R)File 9:Business & Industry(R) Jul

01121764 (USE FORMAT 7 OR 9 FOR FULLTEXT)
ARM core showing up in wireless, encryption
(VLSI Technology introduces PCMCIA controller using ARM, ARM-based single-chip encryption engine for Bell Lab)
Electronic Engineering Times, n 834, p 18+
February 06, 1995
DOCUMENT TYPE: Journal ISSN: 0192-1541 (United States)
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 886

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...the architecture could represent high-volume processor sales for VLSI.

The VM06868 performs on-chip **randomization** , allowing it to generate its own public **keys** without using **random -number seeds** generated externally. The **keys** are never outputted from the chip in readable format, further increasing **key** -distribution security.

The ARM6 core on board the VM06868 can operate in two modes: as...

15/3,K/9 (Item 1 from file: 647)
DIALOG(R)File 647:CMP Computer Fulltext

01042380 CMP ACCESSION NUMBER: EET19950206S0028
ARM core showing up in wireless, encryption (Yakitori)
Loring Wirbel
ELECTRONIC ENGINEERING TIMES, 1995, n 834, PG18
PUBLICATION DATE: 950206

JOURNAL CODE: EET LANGUAGE: English
RECORD TYPE: Fulltext
SECTION HEADING: News
WORD COUNT: 900

... the architecture could represent high-volume processor sales for VLSI.

The VM06868 performs on-chip **randomization** , allowing it to generate its own public **keys** without using **random -number seeds** generated externally. The **keys** are never outputted from the chip in readable format, further increasing **key** -distribution security.

The ARM6 core on board the VM06868 can operate in two modes: as...

15/3,K/10 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 1999 The Gale Group. All rts. reserv.

02056345 SUPPLIER NUMBER: 19207219 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Taming data giants. (Part 2) (Technology Information)
Brobst, Stephen; Robertson, Owen
DBMS, v10, n3, p63(6)
March, 1997
ISSN: 1041-5173 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 6148 LINE COUNT: 00500

... purposes of an actual implementation, because it is too simplistic to provide the degree of **randomization** necessary for a good distribution of data across the partitions (you cannot count on the...

...Notice that in hash partitioning, even if the date timestamp is the partitioning key, the **randomization** of data rows across the partitions makes it impossible to isolate the rows to be...DB2 V4 on MVS, both of which have good implementations for high-end OLTP workloads, **make** use of **key** -range **partitioning** for large tables. The Informix database engine allows any of the three partitioning options for...matching rows must be present (if any such rows exist). Scalability for transaction executions that **make** use of the **partitioning key** for table access is quite good because broadcasts can be avoided completely. However, it is...

15/3,K/11 (Item 2 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 1999 The Gale Group. All rts. reserv.

01525653 SUPPLIER NUMBER: 12339898 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The Digital Signature Standard proposed by NIST. (National Institute of Standards and Technology) (includes related article about decoding cryptographic terminology) (Technical)
Communications of the ACM, v35, n7, p36(5)
July, 1992
DOCUMENT TYPE: Technical ISSN: 0001-0782 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 3238 LINE COUNT: 00224

... Number Generation for the DSA

Any implementation of the DSA requires the ability to generate **random numbers** . **Random numbers** are used to derive a user's private **key** and a user's per-message-**random** -secret-**number** . These **random numbers** are selected to be between 0 and the 160-bit prime q (as specified in the standard). The numbers can be generated by either a true noise hardware **randomizer** or via a pseudorandom function. Such a function would employ a user-generated and secret "**seed** " **key** to initialize the number generator. The generator then would produce a **stream** of bits or number that could be converted into the integers mod q.

APPENDIX 4...

15/3,K/12 (Item 3 [redacted]m file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01379363 SUPPLIER NUMBER: 09558801 (USE FORMAT 7 OR 9 FOR FULL TEXT)
An existential dictionary: superimposed coding packs a lot of information into a small space. (includes related article on derivation of the 'BitsOn' equation) (tutorial)
Floyd, Edwin T.
Dr. Dobb's Journal, v15, n11, p20(9)
Nov, 1990
DOCUMENT TYPE: tutorial ISSN: 1044-789X LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 3431 LINE COUNT: 00257

... Hash Function
With these formulae, we can engineer a bit table for any number of **keys** and with any desired degree of accuracy. The calculated performance is guaranteed, as long as...

...found in the literature for speed and randomization and eventually created one based upon a **random -number** generator described by Steven Park and Keith Miller in a 1988 Communications of the ACM article entitled "**Random Number** Generators: Good Ones are Hard to Find." The "Minimal Standard" generator described in their article is a simple multiplcative congruence algorithm that generates a **sequence** of **seeds**
Next seed = (seed*16807) modulo 2,147,483,647
The Park-Miller generator is a...

15/3,K/13 (Item 4 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01358699 SUPPLIER NUMBER: 08474942 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Chip makers eye a new market: PC fax.
Cole, Bernard C.
Electronics, v63, n4, p72(3)
April, 1990
CODEN: ELECA ISSN: 0883-4989 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1778 LINE COUNT: 00136

... digital-modem functions, says Chan. It also supports the DSP functions, including the adaptive equalizer, **scrambler** and descrambler, automatic gain control, and carrier functions.
The 2902, he says, combines analog and...really take off, says Masters of Fremont Communications, board makers must identify the requirements of **key** vertical business **segments** and **develop** the application software they need for easy access to their customers. "Once that is done...

15/3,K/14 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

09824906 SUPPLIER NUMBER: 19939626 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Cylink Ships CIDEC 3.00 Family of Hardware Link Encryptors, the Strongest Network Security Solution Available.
Business Wire, p11031110
Nov 3, 1997
LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 801 LINE COUNT: 00081

... years. Triple-DES provides enhanced security through three keys (168 total bits) in the encryption **process** . Decryption also requires three **separate** DES **keys** .

With this industr[redacted]-strength security in the enha[redacted]ed algorithm, brute force attacks will no longer...

...ANSI X9.42, public-key cryptography for financial institutions. It strengthens security through the further **randomization** of secret key numbers generated by the Diffie-Hellman public key technique. The more sophisticated...

15/3,K/15 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

09644287 SUPPLIER NUMBER: 16861466 (USE FORMAT 7 OR 9 FOR FULL TEXT)
ARM core showing up in wireless, encryption. (Product Announcement)
Wirbel, Loring
Electronic Engineering Times, n834, p18(2)
Feb 6, 1995
DOCUMENT TYPE: Product Announcement ISSN: 0192-1541 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 975 LINE COUNT: 00080

... the architecture could represent high-volume processor sales for VLSI.
The VM06868 performs on-chip **randomization** , allowing it to generate its own public **keys** without using **random -number seeds** generated externally. The **keys** are never outputted from the chip in readable format, further increasing **key** -distribution security.
The ARM6 core on board the VM06868 can operate in two modes: as...

15/3,K/16 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

09013771 SUPPLIER NUMBER: 18729433 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Hydrocarbon Processing's Environmental Processes' 96.
Hydrocarbon Processing, v75, n8, p85(35)
August, 1996
ISSN: 0018-8190 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 21463 LINE COUNT: 01839

... tank-filling operations.
Description: The process consists of compression (2), condensation (3) and membrane vapor **separation** (4). **Key** to the **process** is an organic-selective membrane that is more permeable to organic compounds than to air...from the system and fume processing can begin. As the fume passes through the static **mixer** (4) and enters the reactor's ambient mixing zone (1), turbulence intimately mixes the hydrocarbons...

15/3,K/17 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

08124425 SUPPLIER NUMBER: 17389671 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Plastics technology: manufacturing handbook & buyers' guide 1995/96. (Buyers Guide)
Plastics Technology, v41, n8, pCOV(941)
August, 1995
DOCUMENT TYPE: Buyers Guide ISSN: 0032-1257 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 174436 LINE COUNT: 15187

... continuous process improvement without production interruption. It builds models, provides tolerance and sensitivity analysis, manages **data** , and plots **information** . Runs on 386 and 486 PCs, Unix workstations, and a variety of mini and mainframe...into one expandable platform.

ALLEN-BRADLEY CO.
Comprehensive injection molding control system combines process control, **sequence** control, and graphic operator interface. Two products make the system possible - the 1771-QDC plastic...

15/3,K/18 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

07262174 SUPPLIER NUMBER: 15368572 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Exactly who will guard those data encryption keys? (Justice Department ponders new non-government guardians) (includes related article on encryption standard debate)
Power, Kevin
Government Computer News, v13, n8, p10(1)
April 18, 1994
ISSN: 0738-4300 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1324 LINE COUNT: 00108

... run those through the Secure Hashing Algorithm," Smid said. "The number is used as a **seed** to another randomizer that derives the actual **seed** values that are taken to the chip programming sites. But even the person putting in the value does not know what **random number** is ultimately generated."
Once the key components are produced, Smid said they are issued to...

15/3,K/19 (Item 6 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

02485050 SUPPLIER NUMBER: 03963638 (USE FORMAT 7 OR 9 FOR FULL TEXT)
New directions for the Army's DF receivers. (direction-finder receivers)
Schmidt, Eric; Davis, Charles
Defense Electronics, v17, p103(4)
Oct, 1985
ISSN: 0278-3479 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 1521 LINE COUNT: 00125

... IF portion of the receiver extracts information coming in from the IF port of the **mixer** and manipulates it into a useful video format.
The first elements to consider of the...

...channels have one leg terminated in a 50-ohm load, while the reference channel is **split** .
The **key** to modern interferometer systems has been the **development** of highly accurate phase detectors. For example, Varian recently introduced a miniature 0.90- by...
?

```
?show files;ds
File 348:European Patents 1978-1999/Sep W37
         (c) 1999 European Patent Office

Set      Items   Description
S1         940   (SPLIT? OR DIVID? OR SEGMENT? OR PARTITION? OR SEPARAT?)(2-
                 N)(KEY OR KEYS OR CIPHER? ?)
S2       87887   SEQUENCE? ? OR BINARY(2N)(SEQUENCE? ? OR NUMBER? ?) OR RAN-
                 DOM?(2N)(SEQUENCE? ? OR NUMBER? ?) OR PSEUDO()RANDOM?(2N)(SEQ-
                 UENCE? ? OR NUMBER? ?) OR PSEUDORANDOM?(2N)(SEQUENCE? ? OR NU-
                 MBER? ?)
S3       23788   RANDOMISER? ? OR RANDOMIZER? ? OR RANDOMISATION OR RANDOMI-
                 ZATION OR SCRAMBLER OR MIXER
S4      249472   KEY OR KEYS OR STREAM OR STREAMS OR KEYSTREAM OR KEYSTREAMS
                  OR BLOCK OR BLOCKS OR SYMBOL OR SYMBOLS OR MATRIX OR MATRICES
                  OR ARRAY OR ARRAYS
S5       36060   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
                 EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
                 TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
                 ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(DATA OR INPUT)
S6       25317   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
                 EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
                 TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
                 ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(INFORMATION)
S7      626094   GENERAT? OR SYNTHES? OR BUILD? OR CONSTRUCT? OR CREAT? OR -
                 DEVELOP? OR MAKE OR MAKING OR PROCESS? OR OUTPUT? OR PRODUC?
S8         127   S1(5N)S7
S9       27657   S2(5N)S7
S10          4   S3(S)S8
S11        233   S3(S)S9
S12          4   S4(S)S10
S13        101   S4(S)S11
S14          2   (S5:S6)(S)S12
S15         10   (S5:S6)(S)S13
S16          7   S1(S)S3
S17          3   (S5:S6)(S)S16
S18        689   S2(S)S3
S19         22   (S5:S6)(S)S18
S20         27   S10 OR S12 OR S14:S17 OR S19
S21         62   S3(S)S4(S)(S5:S6)
S22         45   S21 NOT S20
S23          0   S22 AND MC=W01-A05A?
S24          0   S22 AND IC=H04L-009/08
S25         12   S22 AND (CRYPT? OR ENCRYPT?)
S26         39   S20 OR S24:S25
S27          7   S22(S)(CRYPT? OR ENCRYPT?)
S28         34   S20 OR S27
?t28/3,k/all

 28/3,K/1
DIALOG(R)File 348:European Patents
(c) 1999 European Patent Office. All rts. reserv.

01062924
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Recording  apparatus recording medium, playback apparatus, recording method
   and playback method
Aufzeichnungsgerat, Aufzeichnungsmedium, Wiedergabegerat, Aufzeichnungsverf
   ahren und Wiedergabeverfahren.
Appareil  d'enregistrement,  support  d'enregistrement,  appareil  de
   reproduction, procede d'enregistrement et procede de reproduction
PATENT ASSIGNEE:
  SONY CORPORATION, (214022), 7-35, Kitashinagawa 6-chome Shinagawa-ku,
    Tokyo, (JP), (Applicant designated States: all)
INVENTOR:
  Inazawa, Yoshizumi, c/o Sony Corporation, 7-35, Kitashinagawa 6-chome,
    Shinagawa-ku, Tokyo, (JP)
  Fukami, Tadashi, c/o Sony Corporation, 7-35, Kitashinagawa 6-chome,
```

Liaison cellulaire de [redacted]nees a AMDC utilisant des cana[redacted] multiplexes pour l'augmentation du debit des donnees

PATENT ASSIGNEE:
NOKIA MOBILE PHONES LTD., (997966), Keilalahdentie 4, 02150 Espoo, (FI), (applicant designated states:
AT;BE;CH;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)

INVENTOR:
Honkasalo, Zhi-Chun, 2800, L. Don Dodson No. 1137, Bedford, Texas 76021, (US)
Noneman, John, 13240 Betworth Road, Valley Center, California 92082, (US)
Kahtava, Jussi, 4505 W. Pioneer Drive No. 1014, Irving, Texas 75061, (US)
Laukkanen, Mika, Tormatie 3 as. 2, 90520 Oulu, (FI)
Vadillo, Rodolfo, 9 Burnham Manor, Gibbet Lane, Camberley, Surrey GU15 3UP, (GB)
Hottinen, Ari, Ristiniementie 4 as. 30, 02320 Espoo, (FI)

LEGAL REPRESENTATIVE:
Haws, Helen Louise (72991), Nokia Mobile Phones, St. George's Court, St. George's Road, Camberley, Surrey GU15 3QZ, (GB)

PATENT (CC, No, Kind, Date): EP 828361 A2 980311 (Basic)
APPLICATION (CC, No, Date): EP 97307040 970910;
PRIORITY (CC, No, Date): US 711487 960910
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: H04J-013/04; H04B-007/26;
ABSTRACT WORD COUNT: 259

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9811	3197
SPEC A	(English)	9811	13210
Total word count - document A			16407
Total word count - document B			0
Total word count - documents A + B			16407

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
...SPECIFICATION 9.6 kbps which is equivalent to full rate on a single channel, data burst **randomizer** 120 does not randomize data. The interleaving is done over a 20 millisecond period. The...

...by 1 PN chip. The spread Walsh symbols are then spread by an I PN **sequence** in I pilot spreader 128 and Q PN **sequence** in Q PN spreader 130 for transmission on the I and Q channels, respectively, and...

...a factor of four to 4PT in order to keep the power per transmitted symbol **constant** . The **data** is then transmitted at the power level 4PT as shown in diagram 204 of Figure...a factor of two to 2PT in order to keep the power per transmitted bit **constant** . The **data** is then transmitted at the power level 2PT as shown in diagram 202 of Figure... the RF portion of the transmitter. In order to keep the energy per transmitted bit **constant** the **data** is transmitted at four times the rate as compared to the single channel case of...

28/3,K/6
DIALOG(R)File 348:European Patents

00901208
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Code conversion method and apparatus, code recording medium, code recording apparatus and code reproducing apparatus
Kodeumsetzungsverfahren und -vorrichtung, Kodeaufzeichnungsmedium, Kodeaufzeichnungsvorrichtung und Kodewiedergabevorrichtung
Methode et appareil de conversion de code, support d'enregistrement de code, appareil d'enregistrement de code et appareil de restitution de code
PATENT ASSIGNEE:

MATSUSHITA ELECTRIC [redacted]USTRIAL CO., LTD., (216880), 1[redacted] Ohaza Kadoma, Kadoma-shi, Osaka 571, (JP), (applicant designated states: AT;BE;CH;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
Kobayashi, Yoshiharu, Asuteiji 9-205, 4-1, Hoshida-nishi, Katano-shi, Osaka, (JP)
Akahira, Nobuo, 13-6, Otokoyama-kanaburi, Yawata-shi, Kyoto, (JP)
Mutoh, Akira, 2-16-12, Takeshirodai, Sakai-shi, Osaka, (JP)
Tanaka, Shin-ichi, 1-42-14, Yamate-higashi, Tanabe-cho, Tuzuki-gun, Kyoto, (JP)
LEGAL REPRESENTATIVE:
Kugele, Bernhard et al (51541), NOVAPAT INTERNATIONAL SA, 9, Rue du Valais, 1202 Geneve, (CH)
PATENT (CC, No, Kind, Date): EP 822555 A2 980204 (Basic)
APPLICATION (CC, No, Date): EP 97113214 970731;
PRIORITY (CC, No, Date): JP 96201615 960731; JP 96240304 960911
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: G11B-020/14; H03M-005/14;
ABSTRACT WORD COUNT: 170

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9806	3058
SPEC A	(English)	9806	18771
Total word count - document A			21829
Total word count - document B			0
Total word count - documents A + B			21829

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION to say, single scramble data is represented by any of respectively different 16 types of **pseudo -random number sequences** . Thus, in the respective sectors, the 16 types of **pseudo -random number sequences** associated with the respective scramble data are sequentially selected. Moreover, the **scrambler** 101 scrambles the data included in one sector depending upon the selected **pseudo -random number sequences** , in response to a sector start signal.
The scrambling is performed by the scrambler 101...

...101. As shown in Figure 19, the initial bit patterns of the 16 types of **pseudo -random number sequences** are stored beforehand in a **seed** ROM 111. In response to a **seed** select signal, any of these initial bit patterns is selected from the **seed** ROM 111. A shift register 112 receives the initial bit pattern selected from the **seed** ROM 111 in response to a **seed** load signal and then sequentially shifts the initial bit pattern in synchronization with a bit...seed load signal to the scrambler 12 (State 403). The initial bit patterns of predetermined **pseudo -random number sequences** are stored beforehand in the **scrambler** 12. The **scrambler** 12 selects any of these initial bit patterns in response to the **seed** select signal, and generates a series of **random numbers** beginning with the selected initial bit pattern in response to the **seed** load signal. Then, the **scrambler** 12 scrambles the respective main data words in accordance with the series of **random numbers** and sequentially outputs the scrambled main data words to the 8/16 modulator 13.
It...controller 15 outputs a seed select signal instructing the initial bit pattern of a different **pseudo -random number sequence** (from the **pseudo -random number sequence** which has caused the divergence of the DSV) to the **scrambler** 12 such that the one sector of main data in question is scrambled by the different **pseudo -random number sequence** . In response to the **seed** select signal, the **scrambler** 12 generates a series of **random numbers** beginning with the different initial bit pattern, sequentially scrambles the main data words in accordance with the series of **random numbers** , and then sequentially outputs the scrambled main data words to the 8/16 modulator 13...by applying the following generating polynomial (2) to the scrambler 12 such

that the first **pseudo -random number sequence** and types of second **pseudo -random number sequences** may be set. However, it should be noted that the capacities of the **seed** ROM 111, the shift register 112 and the flip-flop 114 are required to be...exclusive-OR element 46). Thus, the first scrambler 43 also outputs the data (or the **random numbers**) generated by the M **sequence** represented by the generating polynomial (1). Similarly, the second **scrambler** 44 is also configured in substantially the same way as the **scrambler** 101 shown in Figure 19 and includes a **seed** ROM 111, a shift register 112, an exclusive-OR element 113 and a flip-flop...

...the exclusive-OR elements 115 correspond to the exclusive-OR element 47). Thus, the second **scrambler** 44 also outputs the data (or the **random numbers**) generated by the M **sequence** represented by the generating polynomial (2). However, it should be noted that in the second **scrambler** 44, the capacities of the **seed** ROM 111, the shift register 112, and the flip-flop 114 are required to be larger than those of the first **scrambler** 43.

In general, since a frame signal from the controller 15 is negated and a...

...44 of the scrambler switching section 42 set the respective initial bit patterns of the **pseudo -random number sequences** in response to the **seed** select signal and the **seed** load signal, thereby outputting the respective data. In this case, since the frame signal has...

...respective main data words are sequentially scrambled based on the output data of the first **scrambler** 43. The scrambled main data words are sequentially output to the 8/16 modulator 13...controller 15 outputs a seed select signal instructing the initial bit pattern of a different **pseudo -random number sequence** (from the **pseudo -random number sequence** which has caused the divergence of the DSV) to the first and the second scramblers...

...and 44 such that the one sector of main data is scrambled by the different **pseudo -random number sequence** .

If the previous frame which has caused the divergence of the DSV is a top...scrambler 12. The scrambler 12 selects any of the initial bit patterns of the respective **pseudo -random number sequences** in response to the **seed** select signal, generates a series of **random numbers** beginning with the selected initial bit pattern in response to the **seed** load signal, scrambles the respective main data words in accordance with the series of **random numbers** and sequentially outputs the scrambled main data words to the 8/16 modulator 13. Then...to the scrambler 12. The scrambler 12 newly selects another initial bit pattern of a **pseudo -random number sequence** in response to the **seed** select signal, generates a series of **random numbers** , scrambles the respective main data words in accordance with the series of **random numbers** and sequentially outputs the scrambled main data words to the 8/16 modulator 13. Then...

28/3,K/7

00884066

External security module for a television signal decoder
Externes Sicherheitsmodul fur einen Fernsehsignal-Decodierer
Module externe de securite pour un decodeur du signal de television

PATENT ASSIGNEE:
SCIENTIFIC-ATLANTA, INC., (353653), One Technology Parkway South, Box 105600, Atlanta, GA 30348, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)
INVENTOR:
Gammie, Keith Beverly, 51 Hawkridge Avenue, Markham, Ontario L3P 1W1, (CA)

LEGAL REPRESENTATIVE:
  Kugele, Bernhard et al (51541), NOVAPAT INTERNATIONAL SA, 9, Rue du Valais, 1202 Geneve, (CH)
PATENT (CC, No, Kind, Date): EP 809402 A1 971126 (Basic)
APPLICATION (CC, No, Date): EP 97110364 910130;
PRIORITY (CC, No, Date): US 473442 900201
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE
RELATED PARENT NUMBER(S) - PN (AN):
  EP 466916 (EP 919049759)
INTERNATIONAL PATENT CLASS: H04N-007/167;
ABSTRACT WORD COUNT: 58

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9711W3	1249
SPEC A	(English)	9711W3	8193
Total word count - document A			9442
Total word count - document B			0
Total word count - documents A + B			9442

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...SPECIFICATION with the encrypted seed and key.
  MAC video signal 639 is scrambled in line translation **scrambler** 603 which scrambles the lines of the MAC signal using the "**seed** " from **seed** memory 636 for the scrambling algorithm. The resulting scrambled MAC signal is then sent to...

...contains MAC video signal 639 and multiplexed PAM audio data 638, both scrambled with the **seed** , along with the **seed** **encrypted** with the **key** of the month, and a series of **keys** of the month which have been **encrypted** with the secret serial numbers of the subscriber's decoders, all multiplexed together.
  In order...

28/3,K/8
DIALOG(R)File 348:European Patents

00829973
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Integrated cellular communications system
Integrierte zellulare Kommunikationsanordnung
Systeme de communication cellulaire integre
PATENT ASSIGNEE:
  CELSAT AMERICA, INC., (1888610), 879 N. 190th Street, Gardena California 90248, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
  Mallingkrodt, Albert John, 14141 Stratton Way, Santa Ana, California 92705-3299, (US)
LEGAL REPRESENTATIVE:
  Harrison, Ivor Stanley et al (52661), Withers & Rogers 4 Dyer's Buildings Holborn, London EC1N 2JT, (GB)
PATENT (CC, No, Kind, Date): EP 769857 A2 970423 (Basic)
  EP 769857 A3 980812
APPLICATION (CC, No, Date): EP 96118855 910319;
PRIORITY (CC, No, Date): US 495497 900319
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
RELATED PARENT NUMBER(S) - PN (AN):
  EP 476127 (EP 919080143)
INTERNATIONAL PATENT CLASS: H04B-007/185; H04B-007/216;
ABSTRACT WORD COUNT: 206

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB97	803
SPEC A	(English)	EPAB97	7760
Total word count - document A			8563
Total word count - document B			0
Total word count - documents A + B			8563

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...SPECIFICATION known to those skilled in the art. The digital voice signal is combined with local **status data** , and/or other data, facsimile, or video data forming a composite bit **stream** in digital multiplexer 112. The resulting digital bit **stream** proceeds sequentially through forward error encoder 114, **symbol** or bit interleaver 116, **symbol** or bit, phase, and/or amplitude modulator 118, narrow band IF amplifier 120, wideband multiplier or spreader 122, wide band IF amplifier 124, wide band **mixer** 126, and final power amplifier 128. Oscillators or equivalent synthesizers derive the bit or band...

...frequency 134. The PRN generator 136 comprises deterministic logic generating a pseudo-random digital bit **stream** capable of being replicated at the remote receiver. The ring generator 138 on command **generates** a short **pseudo -random sequence** functionally equivalent to a "ring.".

The transceiver receive function 108 demodulation operations mirror the corresponding...

28/3,K/9

DIALOG(R)File 348:European Patents

00814293

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

Signal recording and reproduction and signal record media
Signalaufzeichnung und -wiedergabe sowie Signalaufzeichnungsmedien
Enregistrement et reproduction de signaux et milieux d'enregistrement de signaux

PATENT ASSIGNEE:
SONY CORPORATION, (214021), 7-35 Kitashinagawa 6-chome Shinagawa-ku, Tokyo 141, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
Osawa, Yoshitomo, c/o Sony Corp., Int.Prop.Dep., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
Sako, Yoichiro, c/o Sony Corp., Int.Prop.Dep., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
Kurihara, Akira, c/o Sony Corp., Int.Prop.Dep., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
Kawashima, Isao, c/o Sony Corp., Int.Prop.Dep., 6-7-35 Kitashinagawa, Shinagawa-ku, Tokyo 141, (JP)
LEGAL REPRESENTATIVE:
Cotter, Ivan John et al (29661), D. YOUNG & CO. 21 New Fetter Lane, London EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 756279 A2 970129 (Basic)
EP 756279 A3 990303
APPLICATION (CC, No, Date): EP 96305259 960717;
PRIORITY (CC, No, Date): JP 95189309 950725
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-020/00;
ABSTRACT WORD COUNT: 117

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB97	469
SPEC A	(English)	EPAB97	10716
Total word count - document A			11185
Total word count - document B			0

568...inphase reproduction signal
651 negative-phase reproduction signal
652 inphase reproduction signal
653 inphase signal **block**
654 frame sync signal
655 foreign substance
656 pulse duration modulation signal demodulating section
657...difficult the separation therebetween if there is no key, the mixture signal, together with a **separation key** , being fed to an encrypting device 537 and the resulting cipher 538 being recorded on...

...table. In the recording and reproducing system 1 side, a cipher decoder 543 decrypts the **cipher** and a **separation** device 549 separates the ID number 550 from the disk physical arrangement table 532 by means of the **separation key** to check the illegal disk according to the illegal disk check method according to this...

28/3,K/12
DIALOG(R)File 348:European Patents
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00723197
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Reception apparatus and method
Empfangsgerat und -verfahren
Appareil de reception et methode
PATENT ASSIGNEE:
SCIENTIFIC-ATLANTA, INC., (353654), One Technology Parkway South, Norcross, GA 30092-2967, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Gammie, Keith, 51 Hawkridge Avenue, Markham, Ontario, L3P 1W1, (CA)
Yoneda, Robert K., 9 Station Avenuerive, Toronto, Ontario M4L 1W3, (CA)
Woo, Arthur, 38 Bournville Drive, Apartment 1112, Scarborough, Ontario M1E 1C5, (CA)
Sheldrick, Wayne, 44 Valleywoods Road, Apartment 1112, Don Mills, Ontario M3A 2R6, (CA)
LEGAL REPRESENTATIVE:
Hogg, Jeffery Keith (31905), Withers & Rogers, Goldings House, 2 Hays Lane, London SE1 2HW, (GB)
PATENT (CC, No, Kind, Date): EP 683614 A1 951122 (Basic)
EP 683614 B1 990519
APPLICATION (CC, No, Date): EP 95109967 920327;
PRIORITY (CC, No, Date): US 677460 910329
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE
RELATED PARENT NUMBER(S) - PN (AN):
EP 506435 (EP 923026751)
INTERNATIONAL PATENT CLASS: H04N-007/167; H04N-007/16;
ABSTRACT WORD COUNT: 81

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9920	470
CLAIMS B	(German)	9920	511
CLAIMS B	(French)	9920	557
SPEC B	(English)	9920	11974
Total word count - document A			0
Total word count - document B			13512
Total word count - documents A + B			13512

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...SPECIFICATION with the encrypted seed and key.
MAC video signal 639 is scrambled in line translation **scrambler** 603 which scrambles the lines of the MAC signal using the "**seed** " from **seed**

memory 636 for the s[redacted]mbling algorithm. The resultin[redacted]crambled MAC signal is then sent to...

...contains MAC video signal 639 and multiplexed PAM audio data 638, both scrambled with the **seed** , along with the **seed** **encrypted** with the **key** of the month, and a series of **keys** of the month which have been **encrypted** with the secret serial numbers of the subscriber's decoders, all multiplexed together.

In order...security element. Only the active security element will received B-MAC signals and supply the **seed** to the program **scrambler** 703. A **key** memory 704 contains the active security selection 721 and the **seed** used to scramble program 702 in program **scrambler** 703. Alternatively, as in FIG. 6, **key** memory 604 could contain **keys** of the month (KOMs) which are used to **encrypt** a **seed** . This **seed** is used to **encrypt** the source program 702. In this double **encryption** technique, the KOM is first **encrypted** in first **key** **encryptor** 710 with a first secret serial number (SSN0))) stored in SSN0)) database 711. The KOM is further **encrypted** in second **key** **encryptor** 715 with a second secret serial number (SSN1))) from SSN1)) database 716. This process continues for each SSN so as to produce a series of **encrypted** **keys** which are then multiplexed with the scrambled program via multiplexer 732 and transmitted via satellite...

28/3,K/13

DIALOG(R)File 348:European Patents

00717021
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
System for cooperating with a satellite transponder
System zur Zusammenarbeit mit einer Satellitentransponder
Systeme cooperant avec un transpondeur de satellite
PATENT ASSIGNEE:
SCIENTIFIC-ATLANTA, INC., (353654), One Technology Parkway South, Norcross, GA 30092-2967, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Gammie, Keith, 51 Hawkridge Avenue, Markham, Ontario, L3P 1W1, (CA)
Yoneda, Robert K., 9 Stanton Avenue, Toronto, Ontario, M4L 1W3, (CA)
Woo, Arthur, 38 Bourneville Drive, Scarborough, Ontario, M1E 1C5, (CA)
Sheldrick, Wayne, 44 Valleywoods Road, Apartment 1112, Don Mills, Ontario, M3A 2R6, (CA)
LEGAL REPRESENTATIVE:
Kugele, Bernhard (51541), NOVAPAT INTERNATIONAL SA, 9, Rue du Valais, 1202 Geneve, (CH)
PATENT (CC, No, Kind, Date): EP 679029 A1 951025 (Basic)
EP 679029 B1 990609
APPLICATION (CC, No, Date): EP 95109966 920327;
PRIORITY (CC, No, Date): US 677460 910329
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE
RELATED PARENT NUMBER(S) - PN (AN):
EP 506435 (EP 923026751)
INTERNATIONAL PATENT CLASS: H04N-007/16; H04N-007/167; H04N-007/20;
ABSTRACT WORD COUNT: 125

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9923	631
CLAIMS B	(German)	9923	521
CLAIMS B	(French)	9923	754
SPEC B	(English)	9923	11996
Total word count - document A			0
Total word count - document B			13902
Total word count - documents A + B			13902

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...SPECIFICATION with the encrypted seed and key.
MAC video signal 639 is scrambled in line translation **scrambler** 603 which scrambles the lines of the MAC signal using the "**seed** " from **seed** memory 636 for the scrambling algorithm. The resulting scrambled MAC signal is then sent to...

...contains MAC video signal 639 and multiplexed PAM audio data 638, both scrambled with the **seed** , along with the **seed** **encrypted** with the **key** of the month, and a series of **keys** of the month which have been **encrypted** with the secret serial numbers of the subscriber's decoders, all multiplexed together.
In order...security element. Only the active security element will received B-MAC signals and supply the **seed** to the program **scrambler** 703.

A **key** memory 704 contains the active security selection 721 and the **seed** used to scramble program 702 in program **scrambler** 703. Alternatively, as in FIG. 6, **key** memory 604 could contain **keys** of the month (KOMs) which are used to **encrypt** a **seed** . This **seed** is used to **encrypt** the source program 702. In this double **encryption** technique, the KOM is first **encrypted** in first **key** **encryptor** 710 with a first secret serial number (SSN0))) stored in SSN0)) database 711. The KOM is further **encrypted** in second **key** **encryptor** 715 with a second secret serial number (SSN1))) from SSN1)) database 716. This process continues for each SSN so as to produce a series of **encrypted** **keys** which are then multiplexed with the scrambled program via multiplexer 732 and transmitted via satellite...

28/3,K/14
DIALOG(R)File 348:European Patents

00662896
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Recording and reproducing apparatus.
Aufzeichnungs- und Wiedergabegerat.
Appareil d'enregistrement et de reproduction.
PATENT ASSIGNEE:
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., (216883), 1006, Oaza Kadoma, Kadoma-shi, Osaka-fu, 571, (JP), (applicant designated states: BE;CH;DE;FR;GB;IT;LI;NL)
INVENTOR:
Oshima, Mitsuaki, 115-3, Katsura Minami Tatsumi-cho, Nishikyo-ku, Kyoto, (JP)
LEGAL REPRESENTATIVE:
Senior, Alan Murray (35712), J.A. KEMP & CO., 14 South Square, Gray's Inn , London WC1R 5LX, (GB)
PATENT (CC, No, Kind, Date): EP 637016 A2 950201 (Basic)
EP 637016 A3 950830
APPLICATION (CC, No, Date): EP 94305557 940727;
PRIORITY (CC, No, Date): JP 93205682 930727; JP 94104879 940418; JP 94156089 940707; JP 93297504 931102; JP 93314114 931119
DESIGNATED STATES: BE; CH; DE; FR; GB; IT; LI; NL
INTERNATIONAL PATENT CLASS: G11B-007/00; G11B-013/04; G11B-011/10; G11B-019/02; G11B-020/00; G11B-023/28;
ABSTRACT WORD COUNT: 263

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:
Available Text Language Update Word Count
CLAIMS A (English) EPABF2 497
SPEC A (English) EPABF2 73803
Total word count - document A 74300
Total word count - document B 0
Total word count - documents A + B 74300

...SPECIFICATION equal to 1/100 of the CD data rate. In view of this small data **processing** amount, error correction of the optical reproduced signal is done by an exclusive IC while the signal **processing** in the error correction encoder 35 and the error correction decoder 36 of Fig. 202...

...At a step 452r, interleaving or de-interleaving is executed which has been described with **reference** to Fig. 207(a) and 207(b). Steps 452b-452g execute calculations for the previously...recording layer 3 in accordance with an electric information signal fed from a magnetic recording **block** 9. When the gap ...a flowchart of this program. The program of Fig. 28 is divided into six large **blocks** . A decision **block** 201 decides the character of a disk. In the case of a ROM disk, an exclusive-reproduction **block** 204 is used. In the case of reproduction on an optical RAM disk, a reproduction **block** 202 is executed and sometimes a reproduction/transfer **block** 203 is executed. In the case of recording on an optical RAM disk, a recording **block** 205 is used and sometimes a recording/transfer **block** 206 is used. In the presence of a free time, only transfer is executed by a transfer **block** 207.

The program of Fig. 28 will now be described in more detail. In the decision **block** 201, a step 220 places a recording medium 2, that is, a disk, into a...

...recorded signal is interrupted and an advance to a step 230 in the reproduction/transfer **block** 203 is done. A check is made as to whether or not all of a...

...recording on the optical recording layer, an advance to a step 243 in the recording **block** 205 is done, and a check is given with respect to a recording instruction. When...step 243 is done. Otherwise, an advance to a step 247 in the recording/transfer **block** 206. The step 247 stores the main recorded signal into the memory and simultaneously reproduces...

...result of the check is No, an advance to a step 251 in the transfer **block** 207 is done. Here, recording and also reproducing the main recorded signal are unnecessary, and...

...a method where data transfer to an optical recording surface is not executed. A decision **block** 201, a reproduction **block** 202, and an exclusive reproduction **block** 204 of Fig. 29 are similar to those of Fig. 28, and a description thereof...

...Since the data transfer is not executed, it is unnecessary to provide a reproduction/transfer **block** 203, a recording/transfer **block** 206, and a transfer **block** 207. A recording **block** 205 of Fig. 29 differs from that of Fig. 28, and a detailed description thereof will be given hereinafter.

A step 226 in the reproduction **block** 202 checks whether or not a reproducing instruction is present. When the result of the...retrieves the previous conditions of the magnetic track. Thereafter, a step 264 in an end **block** 206A checks whether or not the operation is ended. When the result of the check...shown in Fig. 86, it can be known what degrees of an angle (theta) a **block** in a given order number in an address 1 corresponds to. Thereby, for example, an...

...resolution in unit of degree can be obtained. Thus, by executing management in unit of **block** , it is possible to obtain optical address information of an arbitrary radius and an arbitrary...of respective tracks such as A1, B1, and A2 is composed of a plurality of **blocks** 327, and one track group is set by combining a plurality of tracks. Guard bands...

...groups so that rewriting can be done in unit of track group. A plurality of **blocks** which compose one track have a sync signal 328, an address 329, a parity 330...a signal from a generator 546 for a unique ID number are mixed by a **mixer** 547 in a manner such that it is difficult to

separate them in the [redacted]ence of a **separation key** . [redacted] mix-resultant signal and a **separation key** 548 are fed to a secret code device 537, being made into a secret code...

28/3,K/15
DIALOG(R)File 348:European Patents

00630888
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Software data protection mechanism.
Vorrichtung zum Schutz von Software.
Mecanisme de protection de logiciel.
PATENT ASSIGNEE:
Bull HN Information Systems Inc., (405375), Corporation Trust Center 1209 Orange Street, Wilmington Delaware, (US), (applicant designated states: CH;DE;FR;GB;LI)
INVENTOR:
Hirsch, Thomas S., 24 Fox Run Road, Bedford, Massachusetts 01730, (US)
LEGAL REPRESENTATIVE:
Altenburg, Udo, Dipl.-Phys. et al (1266), Patent- und Rechtsanwalte Bardehle . Pagenberg . Dost . Altenburg . Frohwitter . Geissler & Partner Postfach 86 06 20, D-81633 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 614147 A2 940907 (Basic)
EP 614147 A3 950927
APPLICATION (CC, No, Date): EP 93118579 931118;
PRIORITY (CC, No, Date): US 992210 921217
DESIGNATED STATES: CH; DE; FR; GB; LI
INTERNATIONAL PATENT CLASS: G06F-012/14;
ABSTRACT WORD COUNT: 145

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF2	1199
SPEC A	(English)	EPABF2	3878
Total word count - document A			5077
Total word count - document B			0
Total word count - documents A + B			5077

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...SPECIFICATION position of the output register.
According to the present invention, the scrambler utilizes a conventional **pseudo random number** generator which is driven by so-called **seed** and start input values. In the preferred embodiment, the **seed** value corresponds to an input value applied to the **pseudo random number** generator for generating the required **sequences** of unique random **number** values. The **pseudo random number** generator generates the same **sequence** of **random number** values for a particular **seed** value. The start value is a unique value associated with a particular user system, such...

...which the software is to be installed. The container multibit positions are filled with unique **random number** values based on the **seed** and start input values.
The binary value stored in the scrambler output register is converted ...to the extent possible. The seed and start values are applied as inputs to the **pseudo random number generator** program included as part of the developer environment 40. Additionally, the application supplies a 32...

...the application calls mix function routine stored in library 400 and provides as inputs, the **seed** , start and the 32-bit binary value. The routine produces as an output, another 32-bit value whose bits have been randomly rearranged utilizing **scrambler array** 402 in the manner previously described. Next, the make **key** function routine is called as

shown in Figure 3a. T[redacted] routine takes the 32-bit...

...puts a null character at the end of the string and stores it in a **key** storage memory 406. As indicated in Figure 2, a **key** pointer to this static string is returned by the routine to application 2. This completes the encoding **sequence** .

The **developer** then verifies that the application is correctly processing key values by running application 1. This...

...CLAIMS A2

1. A protection mechanism for generating user **key** values from input binary values and for transforming **key** values into binary values in a manner that does not require security precautions for preventing disclosure of the manner of generating said user **key** values, said mechanism comprising:

an input register having n number of bit positions for storing a first binary value having n number of bits which is being converted into a **key** value;

a **pseudo random number generator** connected to receive **seed** and start values, said generator in response to said **seed** and start values **generating** repeatable **sequences** of **random number** values;

a **scrambler** including an **array** including n number of multibit containers for storing n number of unique multibit **random number** values included in said repeatable **sequences** ;

said **scrambler** including means for randomly rearranging said n number of bits of said binary value as a function of said multibit **random number** values stored in said n number of containers to form a second n bit binary value; and,

an alphanumeric encoder operatively coupled to said **scrambler** for receiving said second n bit binary value, said encoder including a table for storing...

...said alphanumeric characters to produce a series of alphanumeric characters representing one of said user **key** values.

2. The mechanism of claim 1 wherein said scrambler further includes an output register...having n number of bits which is being converted into a user key value;

a **pseudo random number generator** connected to receive **seed** and start values, said generator in response to said **seed** and start values **generating** repeatable **sequences** of **random number** values;

a **scrambler** including an **array** including n number of multibit containers for storing n number of unique multibit **random number** values included in said repeatable **sequences** ; and,

said **scrambler** including means for randomly rearranging said n number of bits of said binary value as a function of said multibit **random number** values stored in said n number of containers to form a second n bit binary value representative of one of said user **key** values.

13. A protection mechanism for generating user key values from input binary values and...

28/3,K/16

DIALOG(R)File 348:European Patents

00538378

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Independent external security module for a digitally upgradeable television signal decoder

Unabhangiges externes Sicherheitsmodul fur einen digital-erweiterbaren Fernsehsignaldekoder

Module de securite independant et externe pour un decodeur de signaux de television qui est extensible numeriquement

PATENT ASSIGNEE:

SCIENTIFIC-ATLANTA, INC., (353654), One Technology Parkway South,

Norcross, GA 30092-[redacted]7, (US), (applicant designated [redacted]ates:
AT;BE;CH;DE;DK;ES;FR;GB;IT;LI;LU;NL;SE)
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Yoneda, Robert K., 9 Stanton Avenue, Toronto Ontario M4L 1W3, (CA)
Woo, Arthur, 38 Bournville Drive, Scarborough Ontario M1E 1C5, (CA)
Sheldrick, Wayne, c/o Scientific-Atlanta, Inc., 120 Middlefield Road,
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LEGAL REPRESENTATIVE:
Hogg, Jeffery Keith (31905), Withers & Rogers 4 Dyer's Buildings Holborn,
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PATENT (CC, No, Kind, Date): EP 506435 A2 920930 (Basic)
EP 506435 A3 921125
EP 506435 B1 961023
APPLICATION (CC, No, Date): EP 92302675 920327;
PRIORITY (CC, No, Date): US 677460 910329
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: H04N-007/167; H04N-007/16;
ABSTRACT WORD COUNT: 218

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1435
CLAIMS B	(English)	EPAB96	2140
CLAIMS B	(German)	EPAB96	2171
CLAIMS B	(French)	EPAB96	2473
SPEC A	(English)	EPABF1	12317
SPEC B	(English)	EPAB96	12325
Total word count - document A			13753
Total word count - document B			19109
Total word count - documents A + B			32862

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION with the encrypted seed and key.
MAC video signal 639 is scrambled in line translation **scrambler** 603 which scrambles the lines of the MAC signal using the "**seed** " from **seed** memory 636 for the scrambling algorithm. The resulting scrambled MAC signal is then sent to...

...contains MAC video signal 639 and multiplexed PAM audio data 638, both scrambled with the **seed** , along with the **seed** **encrypted** with the **key** of the month, and a series of **keys** of the month which have been **encrypted** with the secret serial numbers of the subscriber's decoders, all multiplexed together.
In order...security element. Only the active security element will received B-MAC signals and supply the **seed** to the program **scrambler** 703.
A **key** memory 704 contains the active security selection 721 and the **seed** used to scramble program 702 in program **scrambler** 703. Alternatively, as in FIG. 6, **key** memory 604 could contain **keys** of the month (KOMs) which are used to **encrypt** a **seed** . This **seed** is used to **encrypt** the source program 702. In this double **encryption** technique, the KOM is first **encrypted** in first **key** **encryptor** 710 with a first secret serial number (SSN(sub(0))) stored in SSN(sub(0)) database 711. The KOM is further **encrypted** in second **key** **encryptor** 715 with a second secret serial number (SSN(sub(1))) from SSN(sub(1)) database 716. This process continues for each SSN so as to produce a series of **encrypted** **keys** which are then multiplexed with the scrambled program via multiplexer 732 and transmitted via satellite...

...SPECIFICATION with the encrypted seed and key.
MAC video signal 639 is scrambled in line translation **scrambler** 603 which scrambles the lines of the MAC signal using the "**seed** " from **seed** memory 636 for the scrambling algorithm. The resulting scrambled MAC signal is then sent to...

...contains MAC video signal 639 and multiplexed PAM audio data 638, both

scrambled with the **se**[redacted], along with the **seed** **encry**[redacted]**d** with the **key** of the month, and a series of **keys** of the month which have been **encrypted** with the secret serial numbers of the subscriber's decoders, all multiplexed together.

In order...security element. Only the active security element will received B-MAC signals and supply the **seed** to the program **scrambler** 703.

A **key** memory 704 contains the active security selection 721 and the **seed** used to scramble program 702 in program **scrambler** 703. Alternatively, as in FIG. 6, **key** memory 604 could contain **keys** of the month (KOMs) which are used to **encrypt** a **seed** . This **seed** is used to **encrypt** the source program 702. In this double **encryption** technique, the KOM is first **encrypted** in first **key** **encryptor** 710 with a first secret serial number (SSN(sub(0))) stored in SSN(sub(0)) database 711. The KOM is further **encrypted** in second **key** **encryptor** 715 with a second secret serial number (SSN(sub(1))) from SSN(sub(1)) database 716. This process continues for each SSN so as to produce a series of **encrypted** **keys** which are then multiplexed with the scrambled program via multiplexer 732 and transmitted via satellite...

28/3,K/17

00503541

CELLULAR COMMUNICATIONS SYSTEM
ZELLULARES KOMMUNIKATIONSSYSTEM
SYSTEME DE COMMUNICATIONS CELLULAIRES

PATENT ASSIGNEE:
CELSAT AMERICA, INC., (1888612), Suite 220, 3460 Torrance Boulevard, Torrance, CA 90503, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Mallinckrodt, Albert John, 14141 Stratton Way, Santa Ana, California 92705-3299, (US)
LEGAL REPRESENTATIVE:
Harrison, Ivor Stanley et al (52661), Withers & Rogers 4 Dyer's Buildings Holborn, London EC1N 2JT, (GB)

PATENT (CC, No, Kind, Date): EP 476127 A1 920325 (Basic)
EP 476127 A1 930224
EP 476127 B1 971022
WO 9115071 911003
APPLICATION (CC, No, Date): EP 91908014 910319; WO 91US1852 910319
PRIORITY (CC, No, Date): US 495491 900319
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: H04L-027/30; H04B-007/216; H04B-007/005;
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9710W3	726
CLAIMS B	(German)	9710W3	656
CLAIMS B	(French)	9710W3	849
SPEC B	(English)	9710W3	8059
Total word count - document A			0
Total word count - document B			10290
Total word count - documents A + B			10290

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...SPECIFICATION known to those skilled in the art. The digital voice signal is combined with local **status** **data** , and/or other data, facsimile, or video data forming a composite bit **stream** in digital multiplexer 112. The resulting digital bit **stream** proceeds sequentially

through forward error coder 114, **symbol** or bit interleaver 116, **symbol** or bit, phase, and/or amplitude modulator 118, narrow band IF amplifier 120, wideband multiplier or spreader 122, wide band IF amplifier 124, wide band **mixer** 126, and final power amplifier 128. Oscillators or equivalent synthesizers derive the bit or baud...

...frequency 134. The PRN generator 136 comprises deterministic logic generating a pseudo-random digital bit **stream** capable of being replicated at the remote receiver. The ring generator 138 on command **generates** a short **pseudo -random sequence** functionally equivalent to a "ring.".

The transceiver receive function 108 demodulation operations mirror the corresponding...

28/3,K/18

00501578

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EXTERNAL SECURITY MODULE FOR A TELEVISION SIGNAL DECODER
EXTERNER SICHERHEITSMODUL FUR EINEN FERNSEHSIGNALDETEKTOR
MODULE DE SECURITE EXTERNE POUR DECODEUR DE SIGNAUX DE TELEVISION

PATENT ASSIGNEE:
SCIENTIFIC-ATLANTA, INC., (353654), One Technology Parkway South, Norcross, GA 30092-2967, (US), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)
INVENTOR:
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LEGAL REPRESENTATIVE:
Kugele, Bernhard (51541), NOVAPAT INTERNATIONAL SA, 9, Rue du Valais, 1202 Geneve, (CH)

PATENT (CC, No, Kind, Date): EP 466916 A1 920122 (Basic)
EP 466916 B1 990602
WO 9111884 910808
APPLICATION (CC, No, Date): EP 91904975 910130; WO 91US501 910130
PRIORITY (CC, No, Date): US 473442 900201
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: H04N-007/167;
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9922	1338
CLAIMS B	(German)	9922	1361
CLAIMS B	(French)	9922	1658
SPEC B	(English)	9922	8093
Total word count - document A			0
Total word count - document B			12450
Total word count - documents A + B			12450

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

...SPECIFICATION with the encrypted seed and key.

MAC video signal 639 is scrambled in line translation **scrambler** 603 which scrambles the lines of the MAC signal using the "**seed** " from **seed** memory 636 for the scrambling algorithm. The resulting scrambled MAC signal is then sent to...

...contains MAC video signal 639 and multiplexed PAM audio data 638, both scrambled with the **seed** , along with the **seed** **encrypted** with the **key** of the month, and a series of **keys** of the month which have been **encrypted** with the secret serial numbers of the subscriber's decoders, all multiplexed together.

In order...

28/3,K/19
DIALOG(R)File 348:European Patents

00490329
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Signal encoding device
Einrichtung zur Signalcodierung
Dispositif de codage d'un signal
PATENT ASSIGNEE:
SHARP KABUSHIKI KAISHA, (260710), 22-22 Nagaike-cho Abeno-ku, Osaka 545, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
Murata, Yasumoto, 87-1-1, Higashi-ando, Ando-cho, Ikoma-gun, Nara-ken, (JP)
Yoshikawa, Shuichi, 2-405 Takanohara-ekimae-danchi, 3-15-1, Suzaku, Nara-shi, Nara-ken, (JP)
Nishiwaki, Yuji, 2-401 Himedera-danchi, 960, Tokujo-cho, Nara-shi, Nara-ken, (JP)
Kawama, Shuichi, 151-30-3-F-203, Mukaijima-ninomaru-cho, Fushimi-ku, Kyoto-shi, Kyoto, (JP)
Morio, Tomokazu, 38-19, Hikita, Shinjo-cho, Kitakatsuragi-gun, Nara-ken, (JP)
Kitoh, Atsunori, 12-6, Imazato-cho, Yamatotakada-shi, Nara-ken, (JP)
LEGAL REPRESENTATIVE:
Brown, Kenneth Richard et al (28831), R.G.C. Jenkins & Co. 26 Caxton Street, London SW1H 0RJ, (GB)
PATENT (CC, No, Kind, Date): EP 488803 A2 920603 (Basic)
EP 488803 A3 921216
EP 488803 B1 970115
APPLICATION (CC, No, Date): EP 91311144 911129;
PRIORITY (CC, No, Date): JP 90335265 901129; JP 9145199 910311
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G10L-009/18; G10L-009/14; G10L-003/00; H03M-007/30;
ABSTRACT WORD COUNT: 121

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	953
CLAIMS B	(English)	EPAB97	931
CLAIMS B	(German)	EPAB97	803
CLAIMS B	(French)	EPAB97	1159
SPEC A	(English)	EPABF1	10117
SPEC B	(English)	EPAB97	9343
Total word count - document A			11071
Total word count - document B			12236
Total word count - documents A + B			23307

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...SPECIFICATION signal by dividing it into blocks of eight samples, if a 23-bit scrambler that **generates** an M-**sequence** of **pseudo -random numbers** is used as the **data train** generating means, the period of the **data train** will be approximately equal to 2(sup 2)(sup 3). Therefore, the number of patterns...

...million which is given by dividing by eight samples. In this case, the original signal **block** comprising a total of 128 bits (16 bits x 8 samples) is compressed to data of 23 bits, the same number of bits as that of the **seed** given to the **scrambler** . If these one million patterns are to be stored in a memory to construct a...

...of patterns x 16 bits x 8 samples). Therefore, when the above-mentioned 23-bit **scrambler** comprising a shift register and a logic circuit is used instead of the code book...in blocks of 32 samples from the buffer

into the voice shift register 2.

A **data train** generated by a **pseudo -random number** generator 3 is sequentially fed to a pattern shift register 5 through a digital filter 4. As shown in Figure 2, the **pseudo -random number** generator 3 is a 23-bit **scrambler** consisting of a 1-bit 23-stage shift register 3a and an exclusive OR (XOR...

...is inverted and input to the least significant stage, thus this operation realizes an M-**sequence** of **pseudo -random numbers** by the following recurrence equation. (Formula omitted) where Z is 0 or 1, and (+) is...seed data is loaded into the corresponding bits of a shift register 13a of a **pseudo -random number** generator 13. The **pseudo -random number** generator 13 is a 23-bit **scrambler** , as is the aforementioned **pseudo -random number** generator 3, comprising a shift register 13a and an XOR circuit 13b. With the **seed** thus given, the shift register 13a performs 32 shifts to output thirty-two 23-bit...

...outputs from the shift register 13a to produce a pattern. The pattern output from the **pseudo -random number** generator 13 is then fed to a synthetic filter 14. The synthetic filter 14 is...

...comprises a plurality of filters 14a, ..., 14c to each of which the pattern from the **pseudo -random number** generator 13 is input. These filters 14a, ..., 14c are FIR filters (finite impulse response filters...

...SPECIFICATION be realized. For example, when encoding a 16-bit digital signal by dividing it into **blocks** of eight samples, if a 23-bit scrambler that **generates** an M-**sequence** of **pseudo -random numbers** is used as the **data train** generating means, the period of the **data train** will be approximately equal to 223). Therefore, the number of patterns that can be generated...

...million which is given by dividing by eight samples. In this case, the original signal **block** comprising a total of 128 bits (16 bits x 8 samples) is compressed to data of 23 bits, the same number of bits as that of the **seed** given to the **scrambler** . If these one million patterns are to be stored in a memory to construct a above-mentioned 23-bit **scrambler** comprising a shift register and a logic circuit is used instead of the code book...in blocks of 32 samples from the buffer into the voice shift register 2.

A **data train** generated by a **pseudo -random number** generator 3 is sequentially fed to a pattern shift register 5 through a digital filter 4. As shown in Figure 2, the **pseudo -random number** generator 3 is a 23-bit **scrambler** consisting of a 1-bit 23-stage shift register 3a and an exclusive OR (XOR...

...is inverted and input to the least significant stage, thus this operation realizes an M-**sequence** of **pseudo -random numbers** by the following recurrence equation. where Z is 0 or 1, and (+) is the XOR... seed data is loaded into the corresponding bits of a shift register 13a of a **pseudo -random number** generator 13. The **pseudo -random number** generator 13 is a 23-bit **scrambler** , as is the aforementioned **pseudo -random number** generator 3, comprising a shift register 13a and an XOR circuit 13b. With the **seed** thus given, the shift register 13a performs 32 shifts to output thirty-two 23-bit...

...outputs from the shift register 13a to produce a pattern. The pattern output from the **pseudo -random number** generator 13 is then fed to a synthetic filter 14. The synthetic filter 14 is...

...comprises a plurality of filters 14a, ..., 14c to each of which the pattern from the **pseudo -random number** generator 13 is input. These filters 14a, ..., 14c are FIR filters (finite impulse response filters...

A 'white' and 'blac[redacted]clipper circuit 104 ensures th[redacted] after the mixing **of** program material and control data in mixer 94, maximum 'white' and minimum 'black' levels are...

...which produces a signal called SYNC OUT; and output driver 126, which provides the VIDEO **OUT** signal. Thus, data encoder 86 provides means for modulating the program signal by the data...

28/3,K/28
DIALOG(R)File 348:European Patents

00315340
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Video scrambling apparatus & method based on space filling curves.
Videoverschleierungsgerat und -Verfahren, beruhend auf Raumfullenden Kurven.
Appareil d'embrouillage video et methode basee sur des courbes remplissant l'espace.
PATENT ASSIGNEE:
YEDA RESEARCH AND DEVELOPMENT COMPANY, LTD., (268942), P.O. Box 26, Rehovot, (IL), (applicant designated states: AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)
INVENTOR:
Matias Yossi, 1 Shturman Street, Herzlia, (IL)
Shamir Adi, 43C Gordon Street, Rehovot, (IL)
LEGAL REPRESENTATIVE:
Morton, Colin David (34122), Keith W Nash & Co. Pearl Assurance House 90-92 Regent Street, Cambridge CB2 1DP, (GB)
PATENT (CC, No, Kind, Date): EP 304217 A2 890222 (Basic)
EP 304217 A3 911211
APPLICATION (CC, No, Date): EP 88307385 880810;
PRIORITY (CC, No, Date): IL 83549 870816
DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: H04N-007/167;
ABSTRACT WORD COUNT: 88

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1051
SPEC A	(English)	EPABF1	6429
Total word count - document A			7480
Total word count - document B			0
Total word count - documents A + B			7480

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...SPECIFICATION 94 via control bus 115.
In accordance with the encryption method of the invention, the **key stream** signal 56 which was used in the scrambler 10 is provided to unscramble control 116, for processing to generate pseudo-random space filling curves, using the same Ham+ algorithm. The **key stream** signal may also be **generated** by a **pseudo -random number generator** having the same "**seed** " as used in the **scrambler** . In such a case the **key stream** need not be supplied to the **mixer** 76. Instead a synchronizing signal may be employed. The output of unscramble control 116 is a **sequence** of left, right, up, and down direction instructions (L, R, U, D) which are fed...

...and 114.
In operation, the incoming video signal 90 has already been scrambled in the **scrambler** 10 by means of pixel reposition according to the SFC. In the descrambler, unit pixels...

...frame store 102 and 104 using addresses produced by the same algorithm employing the identical **key stream** signal 56 as used in the

scrambler 10, with th[redacted]**ey** **stream** signal 56 being s[redacted]rated (or locally **generated**) in **key** **separation** unit 120. These addresses are supplied via write address look-up tables 112 and 113...

...stores 102 and 104 in the same order that it was read out in the **scrambler** 10, thus restoring the original picture. This provides descrambled video signals 122 and 124 which...

28/3,K/29
DIALOG(R)File 348:European Patents

00292778
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Duplex analog scrambler.
Analoger Scrambler fur Duplexbetrieb.
Brouilleur analogique fonctionnant en duplex.
PATENT ASSIGNEE:
MOTOROLA, INC., (205770), 1303 East Algonquin Road, Schaumburg Illinois 60196, (US), (applicant designated states: AT;BE;CH;DE;ES;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Marry, Patrick Joseph, 824 Burr Oak Circle, Cary Illinois 60013, (US)
Wilson, Gregory Patrick, 70 East Harbor Drive, Lake Zurich Illinois 60047, (US)
Houghton, Michael Wesley, 3755 Winston Drive, Hoffman Estates Illinois 60195, (US)
Wellenstein, Neil Nicholas, 4205 N. 105th Avenue, Phoenix Arizona 85039, (US)
LEGAL REPRESENTATIVE:
Hudson, Peter David et al (52402), Motorola Patent and Licensing Operations - Europe Jays Close Viables Industrial Estate, Basingstoke Hampshire RG22 4PD, (GB)
PATENT (CC, No, Kind, Date): EP 295580 A2 881221 (Basic)
EP 295580 A3 900516
APPLICATION (CC, No, Date): EP 88109249 880610;
PRIORITY (CC, No, Date): US 65220 870619
DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: H04K-001/04;
ABSTRACT WORD COUNT: 67

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1373
SPEC A	(English)	EPABF1	7142
Total word count - document A			8515
Total word count - document B			0
Total word count - documents A + B			8515

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...ABSTRACT A2
An analog frequency inversion **scrambler** employing an exchange of **random** **number** **seeds** between an originating **scrambler** (103) and an answering **scrambler** (107) to create two pseudo-random frequency hopping rolling codes has been disclosed. The rolling...

...SPECIFICATION and other objects are encompassed in the present invention which is an analog frequency inversion **scrambler** operating over an audio frequency band communications channel. An unsecure first message is sequentially frequency inverted into a secure first message and transmitted to a second analog frequency inversion **scrambler** on the channel. A secure second message, received from the second **scrambler** on the channel, is sequentially frequency reinverted by the **scrambler** . The **scrambler** exchanges a first **seed** number for a second **seed** number with the second **scrambler** to facilitate the generation of a first code

to **sequence** the frequency inverting of the unsecure first message and the generation of a second code to **sequence** the frequency reinverting of the secure second message. Further, a first code synchronization signal is transmitted by the **scrambler** to synchronize the frequency reinverting of the secure first message at the second **scrambler** and a second code synchronization signal is received by the **scrambler** to synchronize the second code to the second code synchronization signal. Brief Description of the...of the unsecure duplex channel. For convenience, the random digital number generated by the originating **scrambler** station will be called a TX **seed** and the **random** digital **number** generated by the answering **scrambler** station will be called a RX **seed** . The originating **scrambler** station utilizes both the TX **seed** and the RX **seed** to generate another **binary number** which may be cycled bit by bit and read at particular bit locations cycle by cycle to provide a unique encoding number. Such a cycling **binary number** is commonly known as a Rolling Code and may be read and cycled as shown...

...the secure mode of operation is entered, one random number is seized by the originating **scrambler** station and used as a TX **seed** number by the originating **scrambler** station. Similarly, another **random number** is seized by the answering **scrambler** station and used as an RX **seed** . Optionally, the **random number** generated for the TX **seed** happens to equal the number selected for the RX **seed** , the initiation is considered invalid and new numbers may be selected. It is an important feature of the present invention that the automatic generation of the **seeds** by each **scrambler** unit relieves the burden of **key** management from the user, an improvement over present high security encryption systems.

The TX and...microcomputer 601 and its internal associated memory performs the functions of: (a) continuously generating a **random seed number** for use in creating the TX rolling code starting number (b) generating the TX rolling code starting point **binary number** and generating the RX rolling code **binary** starting point **number** ; (c) updating and outputting the TX rolling code and updating and outputting the RX rolling code while maintaining synchronization with the rolling codes at the far end receiving **scrambler** ; and (d) and controlling the muting and bypass functions of the **scrambler** .

A 4-bit sample of the TX rolling code is output from microcomputer 601 on...brief period so that the sync signal may be transmitted without interference.

If the answering **scrambler** station responds to the originating **scrambler** station transmission of TX **seeds** after the fourth TX **seed** transmission 807, the handshake may be completed even though the search timer has expired and no further autonomous TX **seeds** are transmitted from the originating **scrambler** station. In some instances, delay in call completion may take longer than the three seconds of originating **scrambler** station TX **seed** transmission. The scrambling station may, in the preferred embodiment, be placed in the scrambled mode and, when called, respond with a **sequence** of four RX **seed** transmissions as a handshake **sequence** of an answering scrambling station. Thus, as shown in Figure 10, the answering **scrambler** station initiates the scrambled mode with an RX **seed** 1001 on the reverse half of the duplex channel. The originating **scrambler** station responds with a confirmation message (with a repeat of the RX **seed** number) 1003 on the forward duplex channel followed immediately by a TX **seed** 1005. Of the answering **scrambler** station responds with a confirmation message 1007 within 350 milliseconds of the end of the TX **seed** 1005, the scrambled mode of operation will be entered following the essentially simultaneous sync signals...Figure 15E. Upon a request to enter the scrambled mode, the process first seizes a **number** from a **random seed number** generator of the microcomputer 601 (at 1501) and starts a search timer at 1503. This **random seed number** is transmitted as a TX **seed** at 1505 and the process awaits the reception of a confirmation message from the answering **scrambler** station by starting a confirmation message timer at 1507 and waiting for the timer to expire as determined by the loop including decision **block** 1509. If the confirmation timer expires without a confirmation being received, the TX **seed** flags are cleared at 1511 and a determination of whether the search timer has timed out is made at decision **block** 1513. If the search timer has not timed out, the

transmission of the T**seed** process (starting at **block** 1505) is reentered at every integer second through three seconds as determined by decision **block** 1515.

If the search timer times out (at 1513) without a confirmation message being received...initializes the scrambling process by exchanging seeds between the originating scrambler station, which generates a **random number** TX **seed** , and the answering **scrambler** station, which generates a **random number** RX **seed** . The originating **scrambler** utilizes its TX **seed** and the RX **seed** received from the answering **scrambler** station to calculate the starting point values of a rolling code generator which is used...

...pattern of frequency hopping utilized to frequency invert the message to be transmitted. The originating **scrambler** also utilizes the TX **seed** and the RX **seed** to calculate the starting point values for a second rolling code generator used to create the frequency hopping pattern for the frequency reinversion of a received scrambled message. The answering **scrambler** likewise generates identical codes so that communication may occur. Synchronization between the rolling codes is...

...CLAIMS for receiving said second seed number from the channel.

3. An analog audio frequency band **scrambler** in accordance with claim 2 wherein said means for generating is further characterized by:

means for arithmetically combining said first **seed** number, said second **seed** number, at least one additive number, and at least one predetermined multiplication factor to generate said first code;

means for arithmetically combining said first **seed** number, said second **seed** number, at least one additive number, and at least one predetermined multiplication factor to generate...

...shifting said code at intervals of time whereby a rolling code is created to further **sequence** the sequential frequency inversion.

4. An analog audio frequency band scrambler in accordance with claim ...

28/3,K/30

DIALOG(R)File 348:European Patents
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00286763
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348

Apparatus and method for providing digital audio on the sound carrier of a standard television signal.

Vorrichtung und Verfahren zur Herstellung eines digitalen Audiosignals auf dem Tontrager eines Standardfernsehsignals.

Dispositif et procede pour l'obtention d'un signal audio-numerique sur la porteuse de son d'un signal de television standard.

PATENT ASSIGNEE:
GENERAL INSTRUMENT CORPORATION, (264771), 767 Fifth Avenue, New York New York 10153, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
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LEGAL REPRESENTATIVE:
Hoeger, Stellrecht & Partner (100381), Uhlandstrasse 14 c, W-7000 Stuttgart 1, (DE)
PATENT (CC, No, Kind, Date): EP 284799 A2 881005 (Basic)
EP 284799 A3 890920
EP 284799 B1 930721
APPLICATION (CC, No, Date): EP 88103112 880302;
PRIORITY (CC, No, Date): US 22380 870305
DESIGNATED STATES (Pub A): BE; CH; DE; FR; GB; IT; LI; NL; SE; (Pub B): DE; FR; GB
INTERNATIONAL PATENT CLASS: H04N-007/04; H04N-007/10;
ABSTRACT WORD COUNT: 112

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	1688
CLAIMS B	(German)	EPBBF1	1779
CLAIMS B	(French)	EPBBF1	2452
SPEC B	(English)	EPBBF1	9939
Total word count - document A			0
Total word count - document B			15858
Total word count - documents A + B			15858

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...SPECIFICATION sequential logic circuitry 288. This logic processes data from the bit mixer 284 and the **seed** shift register 286 to produce a single bit stream, which is exclusive ORed by an exclusive OR gate 290 with the carryout of the **seed** shift register to produce the cryption bit stream. The cryption bit stream is shifted back into the serial input of the **seed** shift register 286. A data signal (which may be either encrypted or clear) is input...

...key usage byte specifies the key nibble for key latch bit N-R.
The encryption **seed** is the second piece of information required to decrypt the audio data. The **seed** is a random eight bit data byte originated at the cable television headend and transmitted in the AM tag data in an encrypted format. The **seed** is decrypted using the tag **decryption key** specified **in** the AM tag. The **seed** is loaded into the cryptor hardware (Figure 9) and **used** to initialize the sequential logic 288 of the cryptor hardware (via gates 287, 289) at the beginning **of** each field of audio information.
Two levels of **synchronization** between the encryptor and decryptor **must** be met for error free data recovery. First, the sequential logic of the encryptor and...

...synchronized down to the bit level. Second, changes in key and seed information must be **synchronized** down to the **field** level.
The cryptor hardware of Figure 9 is initialized on the leading edge of the first horizontal synchronization pulse transmitted on the aural carrier **amplitude** modulation. Initialization is accomplished by transferring key data from the holding latches 276 to the shift registers 278, 280, and 282, **from** the seed holding latch 274 to its shift register 286, and by initializing the sequential...terminal 120. All FM control signals (e.g., subscriber terminal address signals, terminal signature, encryption **keys** and specifiers, control parameters, audio and video service codes, and program authorization data) are detected...

...tuner 112 that tunes to specific television programs carried in the broadband RF signal input **at** terminal 120. The construction and use of dual conversion tuners in the television industry is...

...signal for each television channel which is tuned. The composite IF outputs correspond to those **produced** at the digital audio headend shown in ...to a 41.25 MHz IF bandpass filter 142. The output of this filter is **mixed** in intercarrier mixer 136 with the output signal from phase lock loop 134. This recovers...

...output from filter 144 is input to an AM peak detector 146 which recovers the **phase and** timing **reference** pilot signal that is necessary to demodulate the multi-phase modulated digital sound data. The ...

28/3,K/31
DIALOG(R)File 348:European Patents

00252065
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Video transmission system using time-warp scrambling.
Fernsehubertragungssystem mit Zeitverzerrungsverschlusselung.

Systeme de transmission de signaux d'images par embrouillage a perversion dans le temps.
PATENT ASSIGNEE:
FREDERIKSEN & SHU LABORATORIES, INC., (772160), 531 West Golf Road, Arlington Heights Illinois 60005, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Frederiksen, Jeffrey E., 603 West Haven Drive, Arlington Heights Illinois 60005, (US)
LEGAL REPRESENTATIVE:
Szczuka, Jan Tymoteusz et al , Cruikshank & Fairweather 19 Royal Exchange Square, Glasgow G1 3AE Scotland, (GB)
PATENT (CC, No, Kind, Date): EP 250661 A1 880107 (Basic)
APPLICATION (CC, No, Date): EP 86304906 860625;
PRIORITY (CC, No, Date): EP 86304906 860625
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: H04N-007/167; H04K-001/00; H04N-009/45; H04N-007/08;
ABSTRACT WORD COUNT: 125

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	4040
SPEC A	(English)	EPABF1	15384
Total word count - document A			19424
Total word count - document B			0
Total word count - documents A + B			19424

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...SPECIFICATION randomly scrambling the time positions of the digital video samples in response to a predetermined **random number** . The **random number** is specified by a free-running **random number** generator 28 containing pre-determined and secret **key** logic. A **seed** number **generated** by the **random number generator** 28 is periodically transmitted from the encoder 20 to the decoder (40 in FIG. 2) to maintain synchronization so that a copy of the **random number** may be **generated** by a similar **random number generator** in the decoder. Because the **key** logic is secret, the **random number** cannot be **generated** merely from the **seed** which could possibly be intercepted as it is transmitted from the encoder to the decoder...and the audio descrambler 52. Only the two most significant bits are fed to the **random number seed** detector 91, and a customer information detector 92. The customer information detector 92 is responsive...

28/3,K/32
DIALOG(R)File 348:European Patents
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00238635
ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348
Remote manipulation method and system.
Fernsteuerungsverfahren und Anlage fur Handhabunsgerat.
Systeme et methode de commande a distance pour manipulateur.
PATENT ASSIGNEE:
HITACHI, LTD., (204141), 6, Kanda Surugadai 4-chome, Chiyoda-ku Tokyo 101 , (JP), (applicant designated states: DE;FR;GB;NL;SE)
INVENTOR:
Ichikawa, Yoshiaki, 3-1, Omikacho-6-chome, Hitachi-shi, (JP)
Senoh, Makoto, Minamidai Jutaku 59-11 1414-11 Suwama, Tokaimura Naka-gun Ibaraki-ken, (JP)
Suzuki, Masanori, 12-1, Ayukawacho-6-chome, Hitachi-shi, (JP)
Kamimura, Hiroshi, 10-22, Higashikanesawacho-4-chome, Hitachi-shi, (JP)
Tomizawa, Fumio, 6-12, Daiharacho-3-chome, Hitachi-shi, (JP)
Sugiyama, Sakae, 1693-12, Shirakata Tokaimura, Naka-gun Ibaraki-ken, (JP)
Sasaki, Masayoshi, 14-22, Nakanarusawacho-2-chome, Hitachi-shi, (JP)

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?show files;ds
File 108:Aerospace Database 1962-1999/Aug
         (c) 1999 AIAA
File   8:Ei Compendex(R) 1970-1999/Sep W2
         (c) 1999 Engineering Info. Inc.
File  77:Conference Papers Index 1973-1999/Sep
         (c) 1999 Cambridge Sci Abs
File 238:Abs. in New Tech & Eng. 1981-1999/Aug
         (c) 1999 Reed-Elsevier (UK) Ltd.
File  35:Dissertation Abstracts Online 1861-1999/Sep
         (c) 1999 UMI
File 103:Energy SciTec 1974-1999/Aug B1
         (c) 1999 Contains copyrighted material
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File   2:INSPEC 1969-1999/Sep W2
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File  14:Mechanical Engineering Abs 1973-1999/Sep
         (c) 1999 Cambridge Sci Abs
File  94:JICST-EPlus 1985-1999/Jun W1
         (c)1999 Japan Science and Tech Corp(JST)
File 438:Library Literature 1984-1999/Aug
         (c) 1999 The HW Wilson Co
File  61:LISA(LIBRARY&INFOSCI) 1969-1999/Sep
         (c) 1999 Reed Reference Publishing
File 239:Mathsci(R) 1940-1999/Aug
         (c) 1999 American Mathematical Society
File 233:Microcomputer Abstracts 1974-1999/Sep
         (c) 1999 Information Today Incl.
File   6:NTIS 64-1999/Oct W3
         Comp&distr 1998 NTIS, Intl Copyright All Righ
File 144:Pascal 1973-1999/Aug
         (c) 1999 INIST/CNRS
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         (c) 1999 SAE Inc.
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  62:SPIN(R) 1975-1999/Aug W4
         (c) 1999 American Institute of Physics
File  99:Wilson Appl. Sci & Tech Abs 1983-1999/Aug
         (c) 1999 The HW Wilson Co.

Set     Items   Description
S1       1336   (SPLIT? OR DIVID? OR SEGMENT? OR PARTITION? OR SEPARAT?)(2-
                N)(KEY OR KEYS OR CIPHER? ?)
S2     877755   SEQUENCE? ? OR BINARY(2N)(SEQUENCE? ? OR NUMBER? ?) OR RAN-
                DOM?(2N)(SEQUENCE? ? OR NUMBER? ?) OR PSEUDO()RANDOM?(2N)(SEQ-
                UENCE? ? OR NUMBER? ?) OR PSEUDORANDOM?(2N)(SEQUENCE? ? OR NU-
                MBER? ?)
S3      44542   RANDOMISER? ? OR RANDOMIZER? ? OR RANDOMISATION OR RANDOMI-
                ZATION OR SCRAMBLER OR MIXER
S4    2589098   KEY OR KEYS OR STREAM OR STREAMS OR KEYSTREAM OR KEYSTREAMS
                 OR BLOCK OR BLOCKS OR SYMBOL OR SYMBOLS OR MATRIX OR MATRICES
                 OR ARRAY OR ARRAYS
S5     232571   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
                EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
                TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
                ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(DATA OR INPUT)
S6     202353   SEED? ? OR TRAIN?(2N)(DATA OR SET) OR (INITIALI?ATION OR R-
                EFERENCE? ? OR LABEL? ? OR IDENTIFICATION OR MAINTENANCE OR S-
                TATUS OR CONDITION OR BIOMETRIC OR FINGERPRINT OR STATIC OR C-
                ONSTANT OR TIME()DEPENDENT OR UPDATE)(2N)(INFORMATION)
S8           0   S1(5N)S7
S9           0   S2(5N)S7
S10          0   S3 AND S8
S11          0   S3 AND S9
```

S12	0	S4 AND [redacted]
S13	0	S4 AND S11
S14	0	(S5:S6) AND S12
S15	0	(S5:S6) AND S13
S16	6	S1 AND S3
S17	0	(S5:S6) AND S16
S18	845	S2 AND S3
S19	5	(S5:S6) AND S18
S20	11	S10 OR S12 OR S14:S17 OR S19
S21	13	S3 AND S4 AND (S5:S6)
S22	11	S21 NOT S20
S23	0	S22 AND MC=W01-A05A?
S24	0	S22 AND IC=H04L-009/08
S25	1	S22 AND (CRYPT? OR ENCRYPT?)
S26	12	S20 OR S24:S25
S27	851	(S1:S2) AND S3
S28	5	(S5:S6) AND S27
S29	0	S28 NOT S26
S30	0	RD (unique items)
S31	6	S1 AND S3
S32	6	RD (unique items)
S33	0	S32 NOT S26
S34	14	S1 AND (S5:S6)
S35	14	S34 NOT (S26 OR S28 OR S31)
S36	13	RD (unique items)

?t26/7/all

26/7/1 (Item 1 from file: 108)
DIALOG(R)File 108:Aerospace Database

02375872 A99-18135
GPS as a random number **source and potential applications**
Kelly, John (Rockwell International Corp., Cedar Rapids, IA)
In: ION GPS-98; Proceedings of the 11th International Technical Meeting of the Satellite Division of the Institute of Navigation, Nashville, TN, Sept. 15-18, 1998. Pt. 2 (A99-18083 03-32), Alexandria, VA, Institute of Navigation, 1998, p. 1477-1489.
1998 21 REFS.
LANGUAGE: English
COUNTRY OF ORIGIN: United States COUNTRY OF PUBLICATION: United States
DOCUMENT TYPE: CONFERENCE PAPER
DOCUMENTS AVAILABLE FROM AIAA Technical Library
JOURNAL ANNOUNCEMENT: IAA9903
An innovative method is proposed to utilize GPS derived data as a source for the generation of pseudo and real **random numbers** . The utilization of said numbers can then be employed for a wide variety of applications, including cryptographic key development and distribution, for secure communications and other uses by the military or civilian population. The method exploits the varied nature of the GPS observables to '**seed** ' a pool of data from which samples are combinatorially mixed and cryptographically processed by the use of validated standard algorithms. The resultant cryptographically secure **random number** may be tailored for bit length thus allowing adaptation for specific security uses and applications. The method of generation is SPS or PPS independent, autonomous in nature, and allows a rich source of globally available entropic data due to the nature of the GPS system. The proposed methodology may replace expensive or poorly suited inputs of natural entropy with the GPS receiver data. The implementation of using GPS as a source of **randomization** is extremely competitive against other existing methods of sampling natural variance for **random number** development due to low cost, size, and portability. The method has extreme interest to military users whose equipment has become increasingly GPS integrated over the past few years. This paper presents overviews of **random number** theory and the development of same. (Author)

26/7/2 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03905350 E.I. No: EIP94081350796
Title: Signal processing for a digital HDTV chromakey mixer
Author: Fechter, Frank; Ricken, Christof
Corporate Source: Technical Univ of Braunchweig, Braunschweig, Ger
Source: Signal Processing: Image Communication v 5 n 5-6 Dec 1993. p 417-423
Publication Year: 1993
CODEN: SPICEF ISSN: 0923-5965
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental); T; (Theoretical); N; (Numerical)
Journal Announcement: 9409W3
Abstract: The quality requirements on HDTV are much higher compared to standard TV. For this reason sophisticated methods of signal processing are necessary within the HDTV studio. This paper compares different methods of key signal generation with respect to the resulting picture quality. Furthermore, an automatic set-up procedure for a digital chromakey **mixer** is described. (Author abstract) 4 Refs.

26/7/3 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01833373 E.I. Monthly No: EI8512120180 E.I. Yearly No: EI85071113
Title: COMPUTER-AIDED STRUCTURE SYNTHESIS OF METAL EXTRACTION PROCESSES.
Author: Kunugita, Eiichi; Tsuboi, Izumi; Kutsuwa, Yoshinori; Ingham, John
Corporate Source: Osaka Univ, Dep of Chemical Engineering, Toyonaka, Jpn
Source: Journal of Chemical Engineering of Japan v 18 n 4 Aug 1985 p 303-307
Publication Year: 1985
CODEN: JCEJAQ ISSN: 0021-9592
Language: ENGLISH
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 8512
Abstract: A computer algorithm is proposed for the structure synthesis of liquid-liquid extraction processes employed for metal separation. The following simplified model is adopted. A process is composed of counter-current multistage **mixer** -settlers. The distribution ratios of the metals are independent of the composition of each phase, and the feed solvent employed for extraction and the water for stripping are each metal-free. A knowledge of the metal components to be separated, the solvents available and the distribution ratios of the metal species enables alternative feasible structures to be selected by use of a tree-type algorithm. For each alernative structure, the number of stages in each operation needed to **separate** the **key** component to a specified value may then be calculated with a computer program in order to minimize the total number of stages in the process. (Author abstract) 10 refs.

26/7/4 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abstracts Online

01310006 ORDER NO: AAD93-27630
THE EFFECTS OF A COGNITIVE BEHAVIOR MODIFICATION SELF-REGULATION STRATEGY ON THE ANALYTICAL WRITING OF MIDDLE SCHOOL STUDENTS IN HETEROGENEOUS GENERAL EDUCATION CLASSES (WRITING STRATEGIES)
Author: LEVY, NANCY R.
Degree: ED.D.
Year: 1993
Corporate Source/Institution: THE JOHNS HOPKINS UNIVERSITY (0098)
Adviser: MICHAEL S. ROSENBERG
Source: VOLUME 54/05-A OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 1758. 162 PAGES

The purpose of this study was to investigate the effects of a cognitive behavior modification self-regulation strategy on the analytical writing of middle school students in heterogeneous general education classes. The study was designed to determine whether students would significantly improve in measures of coherence and sequencing of idea units in argument, sentence complexity of argument, and textual organization of argument when a cognitive self-regulation strategy was paired with direct instruction and peer critiquing.

Subjects were 21 female students, ages 10.1 to 12 years, attending 6th grade in an independent school. Subjects had average to above average intelligence and represented varied socioeconomic, ethnic, and racial groups. Two groups were formed through **randomization** : one received a cognitive behavior modification self-regulation strategy paired with direct instruction and peer critiquing while the other received only the direct instruction and peer critiquing. The dependent variables were (a) ratio of identified coherent (functional) idea units relevant to the written argument; (b) ratio of identified **sequenced** coherent idea units relevant to the written argument; (c) ratio of T-units identified as complex clauses; (d) ratio of mnemonic parts that reflected overall structure of the written argument. Data were analyzed during intervention at three points in time--pretest, posttest, and **maintenance** . **Data** were also analyzed in a generalization condition at the same three points in time. Differences between the control and experimental groups were evaluated through multivariate analysis of covariance (MANCOVA) to determine changes over time and between groups. A reading pretest was used as a covariate to

statistically equate th[redacted]ubjects in reading. Results in[redacted]ated that both control and experimental groups demonstrated acquisition and maintenance in coherence of idea units, **sequence** of coherent idea units, and textual structuring of argument. In addition, both groups generalized textual structuring of argument. However, no significant differences were found between the groups across three points in time in either acquisition, maintenance, or generalization. It is unclear what effect CBM may have played in increasing writing proficiency since the combination of direct instruction and peer critiquing was powerful enough to enable students to acquire and maintain writing skills.

26/7/5 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abstracts Online

1081998 ORDER NO: AAD90-00265
MEAN-REVERSION AND LONG-MEMORY IN STOCK PRICES? A REAPPRAISAL OF THE EMPIRICAL EVIDENCE
Author: KIM, MYUNG JIG
Degree: PH.D.
Year: 1989
Corporate Source/Institution: UNIVERSITY OF WASHINGTON (0250)
CHAIRPERSON: CHARLES R. NELSON
Source: VOLUME 50/08-A OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 2593. 97 PAGES

Short memory in annual historical log S&P real dividend yields and long memory in price-earnings ratio are found, whereas no apparent indication of mean reversion nor long memory is detected from monthly NYSE total returns, both real and excess.

Reexamination of the historical evidence for sample periods 1926-46 and post-1946 using variance ratios and multiperiod return autocorrelations suggests that the phenomenon identified in the recent literature is due primarily to Depression episode. Post-1926 variance ratios and multiperiod-return autocorrelations displays, if anything, a tendency towards persistence in returns, or mean-aversion. Exact significance level is calculated using **randomization** method for the inference purposes. Further, we find that the contrast between pre- and post-war results is unlikely under the hypothesis that returns were random over the whole period. Tentative joint significance level is assessed via two-stage stratified **randomization** .

Indications of memory for two **key** variables, **dividend** yields and price-earnings ratio, appeared in returns predictability literature are consistently found from both the estimated Hurst coefficient and periodogram regression of Geweke and Porter-Hudak procedure. Finding of short memory in dividend yields implies anti-persistence in the sense that positive shock to dividend this period is likely to be quickly dissipated by the following rise in stock price to prevent excess returns from being persistent. On the other hand, long memory found in price-earnings ratio suggest that market assessment on the value of the firms may have been persistently over or under the fundamental value for an extended period, though the historical earnings may be measured with noise. We estimate the fractionally integrated ARMA process as a contender of parsimonious representation of these series using two-stage ML estimation proposed by Geweke and Porter-Hudak.

26/7/6 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abstracts Online

1025964 ORDER NO: AAD88-20197
PROBABILISTICALLY FASTER SEARCH STRUCTURES
Author: HESTER, JAMES HERBERT
Degree: PH.D.
Year: 1988
Corporate Source/Institution: UNIVERSITY OF CALIFORNIA, IRVINE (0030)

CHAIR: DANIEL S. HIRSCHBERG
Source: VOLUME 49/08-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 3295. 82 PAGES

Three data structures and related search algorithms are presented which use probability of access to reduce expected search time. The first structure is a self-organizing sequential list which moves accessed records forward. An algorithm is presented which uses **randomization** to determine record movement, often reducing the update time significantly. Two versions are presented and analyzed to show that records can move (on average) either a chosen constant distance forward, or a chosen fraction of the distance to the front of the list.

The second structure is an optimal binary **split** tree. Two **key** values are stored at each node: the key of the record stored there and a value used to lexically divide descendants of the node. In the original definition, every node must be at least as likely to be accessed as each of its descendants. An algorithm is presented for generating an optimal split tree in time proportional to 1/n of the time required by previous algorithms, when access probabilities are unique. A modification handles non-unique access probabilities (earlier believed to be intractable) in polynomial time. A further modification can reduce a factor of n in the time requirement to lg(n) when the minimum access probability is bounded. Finally, an error in the proof of correctness for an algorithm which was believed to build an optimal generalized binary split tree (nodes may have lower access probability than their descendants) is presented and the possibility of correction is discussed.

The final structure is a hybrid of the previous two. Techniques for insertion and deletion in a binary split tree are presented and applied for the purpose of moving accessed records "up" in the tree. Strategies involving where and when to move a record, what to do about split values, and how and when to apply more drastic updates on the structure are proposed and discussed. Empirical results are presented which compare the relative value of these choices against each other as well as against regular binary search trees and AVL trees.

26/7/7 (Item 1 from file: 202)
DIALOG(R)File 202:Information Science Abs.

00205148 9605148
ISA Document Number in Printed Publication: 9604613
Self-synchronizing scrambler /descrambler without error multiplication.
Document Type: Patent
Author (Affiliation): Amrany, D.
Patent Assignee(s): AT&T Corp.
Patent Number(s): US 5530959
Publication Language(s): English
Source: Jun 25, 1996

A self-synchronizing **scrambler** /descrambler arrangement operates in two modes. In the first, or start-up mode, predetermined data is coupled to the **scrambler** and transmitted to the descrambler. This data is used to "**seed** ", i.e., load, storage devices in the **scrambler** and descrambler with the same information. After a predetermined time interval, the start-up mode is terminated, and the **scrambler** and descrambler each operate in a steady-state mode. In this mode, the information loaded in the **scrambler** and descrambler devices are used to form the **scrambler** and descrambler **key** signals. Advantageously, in the steady-state mode, the occurrence of transmission errors does not effect the contents of the storage devices in the **scrambler** and descrambler. Hence, the prior art problems of error multiplication is avoided. In applications where a number of coded and multiplexed data channels are communicated over the communications channel linking the **scrambler** and descrambler, this approach allows the use of a single **scrambler** /descrambler without degrading the coding benefits.

26/7/8 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

03402161 INSPEC Abstract Number: C89045001
Title: MINI-CPT: a continuous performance test program for the Tandy PC-8 pocket computer
Author(s): Bremer, D.A.
Author Affiliation: Central Oahu Community Mental Health Center, Pearl City, HI, USA
Journal: Behavior Research Methods, Instruments, & Computers vol.21, no.1 p.11-14
Publication Date: Feb. 1989 Country of Publication: USA
CODEN: BRMCEW ISSN: 0743-3808
U.S. Copyright Clearance Center Code: 0743-3808/89/$00.50+.10
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: MINI-CPT programs the miniature PC-8 computer (2 K RAM) to administer a continuous performance test. After training to criterion, MINI-CPT presents a randomized series of 360 stimuli at 1-sec intervals. Upon completion of the 6-min task, statistics including reaction time (RT) mean, standard deviation, and distribution; errors of omission and commission; a percent correct score adjusted for response bias; and RTs for each of the 90 targets are displayed or printed via a PC-3 printer. User options include selecting immediate RT feedback, limiting the task to 3 min, and designating the **randomization seed** to generate replicable stimulus **sequences** . MINI-CPT provides a portable, inexpensive measure of attention suitable for use in field research in attentional-deficit disorders, circadian rhythm disturbances due to shift work or jet lag, and, in neuropsychological rehabilitation, as a directed-attention training device with immediate feedback. (7 Refs)

26/7/9 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

01896174 INSPEC Abstract Number: C82031710
Title: A randomization **list generator for biomedical experiments**
Author(s): Rundell, B.A.; Brown, B.W.; Herson, J.
Author Affiliation: M.D. Anderson Hospital & Tumor Inst., Houston, TX, USA
Journal: Computer Programs in Biomedicine vol.14, no.2 p.171-4
Publication Date: April 1982 Country of Publication: Netherlands
CODEN: COPMBU ISSN: 0010-468X
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: Describes RANLST, an interactive program to produce **random sequences** for **randomizing** patients or animals to treatments in biomedical experiments. The program allows the user to specify strata, **seed** value for the random generator, equal or unequal treatment allocation, and unrestricted or restricted **randomization** . An illustrative example is included. (4 Refs)

26/7/10 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

01738773 INSPEC Abstract Number: B81042225, C81030747
Title: A bit transition density encoder for the space shuttle 2 MHz data channel
Author(s): Schoggen, W.O.; Ingels, F.M.; Mann, D.R.; Coffey, R.E.; Atherton, J.
Author Affiliation: Dept. of Electrical Engng., Mississippi State Univ., MS, USA
Conference Title: IEEE SOUTHEASTCON 1981 Conference Proceedings p. 756-60

Publisher: IEEE, New York, NY, USA
Publication Date: 1981 Country of Publication: USA 913 pp.
Conference Sponsor: IEEE
Conference Date: 5-8 April 1981 Conference Location: Huntsville, AL, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A)
Abstract: The 2 MHZ data channel which carries science data from the various experiments aboard the Space Shuttle through the Tracking and Data Relay Satellite System (TDRSS) involves an NRZ-L **data train** . Due to several rather unique factors, this data stream lacks sufficient bit transition density to satisfy the bit synchronizer requirements at the ground station. Six major encoding techniques were examined and all but one, a PN cover **sequence** (Reset Bit **Scrambler**), were dismissed due to incompatibility with the system constraints. (0 Refs)

26/7/11 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

00958119 INSPEC Abstract Number: B76039137
Title: A modular vision mixer **system**
Author(s): Fenton, R.W.
Journal: Communication & Broadcasting vol.3, no.1 p.20-8
Publication Date: Summer 1976 Country of Publication: UK
CODEN: COBRDB ISSN: 0305-3601
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: Describes the many advanced circuit features and flexible facilities. The special effects system includes a digital pattern generator giving a wide variety of patterns with excellent geometry, and including variable soft edging. Gated control prevents mixing and wiping of sync and burst signals. A precision colour background generator and an encoded inline chroma **key separator** are included. All timing information for the complete **mixer** is derived from the composite video inputs, local pulses not being required. Remote inputs are easily handled and fading of non-synchronous inputs is available. (0 Refs)

26/7/12 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

14003495 PASCAL No.: 99-0188580
A test line newly installed in nucef and research program on advanced reprocessing process by utilizing it
RECOD 98 : 5th international nuclear conference on recycling, conditioning and disposal : "Nice Acropolis", 25-28 October 1998
ASAKURA T; UCHIYAMA G; KIHARA T; HOTOKU S; TAKAHASHI A; WATANABE M; NAKANO Y; KAMEI K; KIMURA S; YAGI T; FUJINE S
Process Engineering Laboratory, Department of Fuel Cycle Safety, JAERI, 2-4 Shirakata Shirane, Naka-gun, Tokai-mura, Ibaraki 319-1195, Japan
Societe europeenne de l'energie nucleaire, Berne, Switzerland; Societe francaise d'energie nucleaire, Paris, France.
International nuclear conference on recycling, conditioning and disposal (Nice FRA) 1998-10-25
1998 746-753
Publisher: SFEN, Paris
Availability: INIST-Y 32083; 354000073164420960
Document Type: C (Conference Proceedings) ; A (Analytic)
Country of Publication: France
Language: English
In JAERI, a research on an advanced PUREX process has been conducted. The advanced process, PARC(**Partitioning** Conundrum **Key**) process, is incorporated with group partitioning. The first research objective is reduction of radiation hazard risk arising from reprocessing. The means for the objective are recovery of TRU elements, recovery of long-lived fission

products and SUP 1 [redacted] 4 C, and reduction of so[redacted] waste amount by utilizing salt-free reagent. The second objective is reinforcing the economical benefit of reprocessing. The means for the objective are optimization of a dissolution process and simplification of an extraction process to one cycle. To study on the process using spent fuel, a small scale reprocessing test line has been installed in alpha-gamma cell at NUCEF(Nuclear Fuel Cycle Engineering Research Facility). The line contains apparatus that represent principal reprocessing steps, i.e., dissolution, co-decontamination, U/Pu separation, U stripping, solvent regeneration and HAW concentration. A batch-wise dissolver(500 g of spent fuel for 1 batch, 2.2 L of solution) is operated to simulate continuous dissolution. It is supplied with nitric acid and extra solution overflows. The dissolver is equipped with NOx gas supply line, and off gas from it introduced to iodine and carbon recovery system. The extraction steps contains five extractors, extractor 1A, 1B, 2, 3A and 3B, which are **mixer** -settler(20 stages). They can represent various flow sheet by re-arranging flexible tube. The holdup of the extractor 1A, 1B, and 2 is 0.49 L, and that of the extractor 3A and 3B is 1.8 L. U, Pu, Np, Tc are co-extracted in 1A, and Np and Tc are separated from U/Pu in 1B. U/Pu partition is conducted in the extractor 2. 3A is for various scrubbing and 3B is for U stripping. Solvent regeneration step contains extractor 4, a **mixer** -settler, and an electrolysis vessel(5.2 L). Alkali aqueous waste is stored in the vessel, and remaining reagent can be decomposed if possible. HAW is concentrated in a evaporator(2.8 L) under normal pressure. HNO SUB 3 /water vapor is introduced to a distillation tower and HNO SUB 3 /water are recovered to be re-used. In March of 1998, commissioning of the test line was finished. Now, experiment using spent fuel has already started.

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?t36/7/all

36/7/1 (Item 1 from file: 108)
DIALOG(R)File 108:Aerospace Database

02082796 A93-42844
An evaluation of miniaturized aircraft keyboards
BUTKUS, KATHERINE; HUGHES, EDWARD; MORONEY, WILLIAM (USAF, Aeronautical Systems Div., Wright-Patterson AFB; Dayton Univ., OH)
In: NAECON 92; Proceedings of the IEEE 1992 National Aerospace and Electronics Conference, Dayton, OH, May 18-22, 1992. Vol. 2 (A93-42776 17-01)
PLACE OF PUBLICATION: New York PUBLISHER: Institute of Electrical and Electronics Engineers, Inc. 1992 11 REFS.
LANGUAGE: English
COUNTRY OF ORIGIN: United States COUNTRY OF PUBLICATION: United States
DOCUMENT TYPE: CONFERENCE PAPER
DOCUMENTS AVAILABLE FROM AIAA Technical Library
JOURNAL ANNOUNCEMENT: IAA9317
A study was conducted to examine the accuracy of the keyboard requirements of MIL-STD-1472D and to assess the consequences of operating an aircraft keyboard which was reduced in size to values below the requirements of the military standard. Four keyboard configurations were examined: (1) **key** size and **separation** within MIL-STD-1472D requirements; (2) **key** size and **separation** within the requirements, with key barriers; (3) **key separation** below the requirements; and (4) **key separation** below the requirements, with key barriers. The barrier design was proposed as a technique for reducing the probability of inadvertent key activation, especially for the smaller keyboard configuration. The experiment was conducted in two phases. Phase 1 consisted of keyboard **training** , and examined **data** entry (keying speed and accuracy) in a ground environment. Phase 2 examined both the extent of keyboard entry degradation during a simulated flying task, and the consequences of increasing flying task workload on keying performance. High levels of accuracy were attained for all keyboards. Under the simulated flying task, increased error rates were obtained with the close-separation keyboards. Under the simulated flying task, error rates were slightly higher than under the training condition when the barrier was used. Barriers increase entry time without reducing errors (Author)
SOURCE OF ABSTRACT/SUBFILE: AIAA

36/7/2 (Item 2 from file: 108)
DIALOG(R)File 108:Aerospace Database

01530405 A85-45013
Sensor cueing performance analysis
HASKINS, T. G. (Allied Corp., Towson, MD)
IN: NAECON 1984; Proceedings of the National Aerospace and Electronics Conference, Dayton, OH, May 21-25, 1984. Volume 1 (A85-44976 21-01). New York, IEEE, 1984, p. 262-265.
1984
LANGUAGE: English
COUNTRY OF ORIGIN: United States COUNTRY OF PUBLICATION: United States
DOCUMENT TYPE: CONFERENCE PAPER
DOCUMENTS AVAILABLE FROM AIAA Technical Library
JOURNAL ANNOUNCEMENT: IAA8521
The ability to cue a sensor to a target using a state estimate from a **separate** sensor is **key** to the fusion of **identification information** from several sensors in a multisensor correlation (fusion) ID system. The cueing problem is more pronounced when the second sensor's field-of-view (FOV) approaches the size of the first sensor's measurement error and/or the first sensor's FOV is significantly larger than that of the second sensor. This paper investigates both static and dynamic cueing algorithms: a static algorithm places the second sensor's FOV around the first sensor's state estimate, whereas a dynamic algorithm moves the second sensor's FOV

if target is not acquired in the first try according to specified search algorithm (Author)
SOURCE OF ABSTRACT/SUBFILE: AIAA

36/7/3 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05014215 E.I. No: EIP98054192129
Title: Building a dynamic Web site: Separating data from display
Author: Murphy, Daniel J.
Corporate Source: SUNY Inst of Technology at Utica/Rome, Utica, NY, USA
Conference Title: Proceedings of the 1997 44th Annual Conference of the Society for Technical Communication
Conference Location: Toronto, Can Conference Date: 19970511-19970514
E.I. Conference No.: 48313
Source: Proceedings/STC, Society for Technical Communication Annual Conference 1997. Soc for Technical Communication, Arlington, VA, USA. p 349-351
Publication Year: 1997
CODEN: PCNCEI
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review)
Journal Announcement: 9807W2
Abstract: The Dynamic Information Data Delivery System (DIDDS) approach is useful for organizations or groups who want Web pages that can be changed quickly, easily and consistently by individuals unfamiliar with hypertext markup language (HTML). It can be used for information updates by untrained personnel because the **data update** interface is browser-based and can be accessed by anyone who is comfortable using a Web browser. The **key** is to **separate** data from display which involves a suite of customized CGI programs whereby data requested by a client is passed through a `display filter' that attaches the HTML tags and generates the page `on the fly'. 1 Refs.

36/7/4 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

04229615 INSPEC Abstract Number: C9210-4250-006
Title: Bridge model: an integrated database model for office information systems
Author(s): Ozawa, H.; Anzai, Y.; Aiso, H.
Author Affiliation: Dept. of Electr. Eng., Keio Univ., Tokyo, Japan
Journal: Transactions of the Information Processing Society of Japan vol.33, no.4 p.551-9
Publication Date: 1992 Country of Publication: Japan
CODEN: JSGRD5 ISSN: 0387-5806
Language: Japanese Document Type: Journal Paper (JP)
Treatment: Practical (P); Theoretical (T)
Abstract: Discusses dynamic and static connections within relational databases and the facilities of a link icon in the hypertext. A node is represented by a tuple expression. The authors describe the 'times' operation of documents in the bridge model; 'times' between the hypertext and the relational database with null data link-keys; a national join between the hypertext and the database with **constant data** link-**key** ; the '**divide** ' operation of documents in the bridge model; the 'projection' operation; database retrieval with an Euler graph; and an office system which is based on the bridge model. (15 Refs)

36/7/5 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

04174923 INSPEC Abstract Number: C9208-5260B-013

Title: A neural network approach to component versus holistic recognition of facial expressions in images
Author(s): Rahardja, A.; Sowmya, A.; Wilson, W.H.
Author Affiliation: Sch. of Comput. Sci. & Eng., New South Wales Univ., Sydney, NSW, Australia
Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.1607 p.62-70
Publication Date: 1992 Country of Publication: USA
CODEN: PSISDG ISSN: 0277-786X
U.S. Copyright Clearance Center Code: 0 8194 0744 5/92/$4.00
Conference Title: Intelligent Robots and Computer Vision X: Algorithms and Techniques
Conference Sponsor: SPIE
Conference Date: 11-13 Nov. 1991 Conference Location: Boston, MA, USA
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Practical (P)
Abstract: The role of features versus the whole in the learning of human facial expressions is explored. A pyramid-like modular network has been developed to learn and identify hand-drawn facial expressions. Because of the nature of the network architecture, image size becomes less of an issue in network learning. The network exhibits a parallel learning capability which could be used to speed up the training process. An analysis of the hidden units of the network reveals that features are used in learning when there is commonality of facial features in the training patterns. The paper also demonstrates attention focusing in the network by masking off specific areas of the face during testing. The network model creates a 'leaner' representation of the original face object and classification is based on this representation. By including the leaner representation and **separate** **key** features in the final **training** **set** , one can simulate a coarse-to-find search method, as in image processing. (11 Refs)

36/7/6 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC

02372083 INSPEC Abstract Number: C85007332, D85000110
Title: More companies gain that competitive edge
Author(s): Wyles, C.
Journal: Engineering Computers vol.3, no.6 p.20-5
Publication Date: Nov. 1984 Country of Publication: UK
CODEN: ENGCD6 ISSN: 0263-4759
Language: English Document Type: Journal Paper (JP)
Treatment: Applications (A); General, Review (G)
Abstract: The number of factories using computers has risen by 50% during the last year, but what is more important and a truer measure of attempts to improve efficiency is the use of applications software. Manufacturing management applications can be **divided** into the **key** areas of stock control; costing; sales order processing; purchase ordering; material requirement planning; master scheduling; capacity planning; shopfloor **data** capture; and **maintenance** . In going from the first to the last there is an increase in the sophistication of computer-based production management. Companies are steadily beginning to understand that the real benefits of computer-based production management will materialise only when they progress beyond stock control and costing. A recent survey by 'Works Management' journal has shown that a larger number of companies seem to be climbing up the sophistication ladder year after year. Another problem that has to be overcome is the lack of use of standard software, opting instead for tailor-made or in-house software which rarely gives any greater efficiency but always costs very much more. (0 Refs)

36/7/7 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

00993096 JICST ACCESSION NUMBER: 90A0292542 FILE SEGMENT: JICST-E

Designing the user interface based on multiprocess model for multithread dialogue.

MIYATAKE AKIYOSHI (1); IMAMIYA ATSUMI (2)

(1) TAKUMADENPAKOGYOKOTOSENMONGAKKO; (2) Yamanashi Univ., Faculty of Engineering

Joho Shori Gakkai Kenkyu Hokoku, 1990, VOL.90,NO.16(CG-43), PAGE.8-15, FIG.10, REF.7

JOURNAL NUMBER: Z0031BAO ISSN NO: 0919-6072

UNIVERSAL DECIMAL CLASSIFICATION: 681.3.02.001

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

ABSTRACT: The important issue of user interface for multithread dialogue has begun to be addressed only recently. Dialogue independence is the **key** concept that **separates** design of the interface from design of the computational component of an application system. To support a rapid and a fine semantic feedback, however, it is necessary to share the application data between user interface and application modules. Concurrency is also necessary to implement the multithread dialogues. In this paper we consider a fine run time structure of user interface to support multithread dialogue, then present a multiprocess model, and the prototype of the user interface based on this model. (author abst.)

36/7/8 (Item 1 from file: 239)

DIALOG(R)File 239:Mathsci(R)

02936570 CR 87110905a

Programming language concepts (2nd ed.).

Ghezzi, Carlo (Politecnico di Milano, Milan, Italy,

Jazayeri, Mehdi (Hewlett Packard Laboratories,

Publ: John Wiley & Sons, Inc., New York, NY

1986, 428 pp. ISBN: 0-471-82173-X

Price: $41.40

Language: English

Document Type: Book

Journal Announcement: 2811

Comparative Book Review

Subfile: CR (Computing Reviews) ACM

Abstract Length: long (323 lines)

The last few years have seen an increased emphasis on data and modular abstraction, programming environments, control structures for concurrent processes, formal methods of addressing program correctness, and the validation of some Ada compilers. So, the time has come for new or major revisions of successful books on programming languages. The six books (plus a supplementary book) considered in this review were chosen as representing the best of those currently available. Each would be suitable for a course following the syllabus of CS 8 in ACM's Curriculum '78 [1].

Each book, of course, offers alternatives. If one is searching for the most elementary, Tucker would be the text of choice; the most advanced would be the book by Marcotty and Ledgard. If descriptions of most of the languages in common use are wanted, Ghezzi and Jazayeri could be chosen; or one could use any of the books as a primary text, supplemented by Horowitz's collection of readings.

All of the books seem to treat the historical development of languages as beginning with FORTRAN and leading up to Ada. C is considered in only two of the six, as are Prolog and SNOBOL.

Programming languages texts are organized in one of two ways: vertically or horizontally (in MacLennan's terminology). A vertical treatment considers languages one by one, usually in historical sequence, and deduces language concepts from them. The horizontal organization considers concepts separately, and then describes how existing languages deal with them. Three of the books are organized by concept, two by language, and one does both. All authors seem to agree, however, that except for advanced undergraduates or graduate students, concepts will only be understood in conjunction with active programming in languages of different types.

Some believe, also, [redacted]t advanced students should be [redacted]ding the literature as well as a textbook. To this end, Horowitz presents a thoroughly updated set of readings, and the authors of the four books addressed to upper-level students provide good annotations to their bibliographies. \par\it {\bf Ghezzi and Jazayeri}\rm

If any one notion distinguishes this work from other books on programming languages, it is the theme that programming languages should support software development. (p. vi)

The authors state (p. v) that their text is organized by concept. However, their list of concepts is rather different from others so conceived. They list only four: data, control, correctness, and programming in the large. This second edition has strengthened the material on functional languages such as LISP, object-oriented programming (e.g., SMALLTALK), and has added an excellent chapter on logic programming, with an emphasis on Prolog. A chapter on axiomatic and denotational semantics has also been added, based on a new book,\it Theoretical computer science\rm [2]. The authors suggest that the text be supplemented with language reference manuals, and that students actively program in languages that exemplify the different paradigms presented.

The book is eminently readable and provides excellent and up-to-date suggestions for further reading at the end of each chapter. In keeping with their expressed purpose, Chapter 6 is titled Programming in the Large. By this the authors mean projects involving numerous people, which can be easily modified and maintained, and for which demonstrations of correctness can be made module by module. The discussion centers around Pascal, SIMULA 67, and Ada. Software development tools such as are found in the environments for Ada, for SMALLTALK, and for UNIX are also considered. The text ends with a lively chapter on design and contains a useful glossary of 21 different languages.

This is a splendid book, providing a survey and a tantalizing introduction to the field. My only quibble is that the authors' use of Backus's FP language to introduce applicative languages seems to make LISP and APL appear more difficult than they really are. \par\it {\bf Horowitz\rm }

I believe the best possible way to study and understand today's programming languages is by focusing on a few essential concepts. . . . [It] can lead both to better understanding of existing languages and also to superior language designs in the future. (pp. xi--xii)

This text has been used by the author in a lecture/lab setting with undergraduates, and also in a seminar for seniors and beginning graduate students. It was for use in this latter class format that he developed the companion volume,\it Programming languages: a grand tour\rm . This supplement consists of a well-chosen selection of articles that are classics in the field, dating from McCarthy's 1960 \it Communications of the ACM\rm article introducing LISP, and the ALGOL-60 revised report (1963), through Barnes's 1980 oveview of Ada, to 1984 articles from popular computer magazines on True and Better BASIC, and a 1985 tutorial on Prolog. It is a genuine revision, in which most of the flaws cited in the previous reviews have been remedied. Even though the cost of this paperback seems rather high, students would do well to add it to their libraries, no matter what other text is being used.

These two volumes could be very effective in a seminar, but an instructor would have to supplement the text considerably with exercises and/or laboratory materials to make it work well in a lower-division course. The very large number of errors, both new ones and those carried over from the first edition, were commented on in\it CR\rm review 8408-0600.

The book is organized beautifully, with brief but comprehensive chapters on history and design considerations, followed by the concepts. The bulk of the development leads to Ada, with most examples of programming concepts taken from it. The final three chapters consider LISP, as a functional language, VAL, exemplifying the dataflow model, and SMALLTALK, representing object-oriented programming. These are outside the concept-example presentation of the earlier chapters. Interestingly, there is no mention of either Prolog or C.

LISP is presented in an overview and is nicely done. Ironically, the dataflow model is presented as an alternative to ``focusing on the central processing unit and trying to speed up its circuitry [which] does not

appear capable of sustaining the orders of improvement that have been achieved in the past'' (p. 374). The author cannot be faulted, however, for not anticipating the recent gains in superconductivity, which contradict his predictions for the necessity of supercooled super computers. Chapter 14, which is on SMALLTALK, and was written by Rentsch, bears little relation to the other 13 chapters, but it might be a useful addition for those with access to the language.

{\bf\it MacLennan\rm }

[This] book is organized around a stripped down, or pruned, history of programming languages that allows the student to see issues in their historical context and to appreciate the way languages evolve. (p. xi)

Although this book is organized horizontally, language by language, MacLennan recognizes the merit of a vertical or concept-oriented approach to considering programming languages, and includes a Concept Directory in addition to the Index and Table of Contents. This enables a student and an instructor to look back, or possibly ahead, to find all the material on, say, parameter passing. He also uses a ``Principle'' device, which is highlighted throughout the book. These sixteen notions, e.g., ``Orthogonality: Independent functions should be controlled by independent mechanisms'' (p. 547) are collected in the last chapter with a few summary exercises to reinforce the ideas.

The historical approach used here enables the reader to look at languages one at a time and consider what can and cannot be done in each. Thus, the revision of an old language or the introduction of a new language is well motivated. This organization also facilitates the lecture/lab class format, where students write reasonably-sized programs in, perhaps, three different representative languages.

The adopter should be warned, however, that the fourth generation to MacLennan does not include SQL and NOMAD, but is synonymous with data abstraction languages such as Ada.

One particular strength of this text is its use of diagrams where appropriate. My students found the fairly difficult notions of activation records, static and dynamic links, and environments more understandable after following them through. Another positive feature is the pencil and paper exercises throughout. One-quarter to one-third of the exercises appear at the ends of chapters, and are thought or essay questions. Many of these are well thought out and doable, such as number 4 at the end of Chapter 5, which asks the student to read, summarize, and critique an article of Wirth's, with the complete reference provided. However, the final exercise in the book asks one to ``design a programming language.'' It is, fortunately, marked with two asterisks, meaning ``difficult.''

MacLennan ends his chapters with superb summaries. Students would be well advised to read these both before and after tackling the material in the chapter. This new edition has been carefully updated, revised, and edited.

{\bf\it Marcotty and Ledgard\rm }

[This book] starts with the language concepts, studies them in relative isolation, and then seeks examples of the implementation of these principles in real languages. . . . We believe that it is only by understanding the basic concepts first that meaningful comparisons may be drawn among various languages. (p. xvii)

Among various books organized by concept, this text adheres to the philosophy most successfully. The authors first present a minilanguage, Core, which does not include procedures or functions. Core has five kinds of statements: assignment, if, loop, input, and output. Various language features, such as the use of statement terminators versus **separators** , reserved versus **key** words, and the use and syntax of comments, are considered in the context of Core. At the end of this chapter, students are assigned, among other things, the task of writing a Core reference manual.

The presentation of Core is followed by formal syntax definition forms, such as BNF, CODASYL, syntax diagrams, and context-sensitive attribute grammars. After syntax comes, of course, semantics. The authors discuss Core in terms of the Vienna Definition Language, denotational semantics, axiomatic representations, and loop invariants. A chapter on translation, including parsing, optimization, code generation, and preprocessors, follows. While this might seem a bit much for undergraduates, the writing style is so clear that at least upper-level students will be able to understand and appreciate the ideaspresented.

The use of minilanguages to consider concepts dates from Ledgard's paper [3]. The original ten languages have been increased to 13 and modified for this text. Core is extended in various ways to motivate consideration of referencing, control (including formal control structures), types, I/O, procedures, scope, dynamic structures, applicative languages, exception handling, parallel processing, and separately compiled modules.

Each chapter concludes with good (although few) exercises and an excellent discussion of suggested further readings. Six term projects are proposed in the last chapter. These include implementing one of the minilanguages, writing a user manual, reducing a known language to a miniteaching language, preparing a topical literature review, critiquing an unfamiliar programming language, or developing a detailed technical review of a single, seminal paper. Any one of these would be good preparation for graduate school.

The book is enlivened with 19 well-selected photographs. My favorite, which introduces the chapter on parallel processing, shows a flock of sheep walking down one lane of a busy highway while faster cars and trucks wait.

{\bf\it Pratt\rm }

The underlying principles have always been vague at best, and the accumulation of accepted design alternatives has been far slower than one might expect considering the hundreds of programming languages that have come into existence during the period [1950--'80]. The central goal of this book is to bring together the various facets of language design and implementation within a single conceptual framework. (p. xiii)

If a single adjective were used to describe this new edition of a popular textbook published in 1975, it would be unambiguous. Pratt has made great efforts to use words carefully and to explain the problems encountered where confusion exists. For example, he describes the operation of an interpreter both in words and diagram in the chapter on processors; subprograms are discussed as abstract operations at both the program level and the language-design level and then integrated; arguments, formal and actual parameters, and results are carefully distinguished to facilitate the discussion of shared data; and both problems and the effects on current practice of theoretical models for syntax and semantics are delineated. Even in the exercises, words are carefully disambiguated where appropriate.

Another distinguishing feature is the text's engineering flavor. It integrates hardware considerations thoroughly among more theoretical concerns. Since only knowledge of one programming language, machine organization, and assembly language are assumed, descriptions are elementary, concise, and carefully worded.

After laying out language concepts, Pratt considers eight commonly used languages in detail. In addition to major rewriting, sections on procedural and data abstraction, programming environments, concurrency, and theoretical models have been added for this edition. Pascal and Ada have replaced ALGOL-60 in the language chapters.

{\bf\it Tucker\rm }

This edition has two major parts. One part contains a systematic study of eleven major programming languages . . . in five distinct programming application areas. . . . The second part covers three topical areas (syntax, semantics, and pragmatics) in programming language design and implementation. The two parts are interwoven. . . .

Tucker envisions a course that includes a lab where lower-level undergraduates program in three different languages previously unknown to them. These are to be chosen from traditional imperative languages (Chapters 2--5), applicative and string-processing languages (Chapters 7--9), and a potpourri of more recent languages (Chapters 11--14). This format is facilitated by five case studies representing different applications areas. Each language chapter ends with a complete program implementing one of the five cases. Source code for these is available on diskette from the publisher. The programs have all been executed on hardware available to the author, i.e., an IBM 370/145, DEC VAX 11-750, and IBM-PC. Each language chapter serves as a clearly written, practical minimanual.

The case studies concern matrix inversion (scientific), employee file **maintenance** (**data** processing), text formatting, missionaries and cannibals (artificial intelligence), and a job scheduler (systems programming). They are well thought out, and quite doable by students with only one year of programming behind them. A full program in at least two

languages is included for each case. Students are asked to either modify the case presented or program one of the other cases.

According to the author, the concept chapters are to be covered in lectures while the students are working on their programs. These chapters are somewhat abbreviated for the material they have to cover and are practical rather than theoretical in nature. A final, seven-page discussion provides a cursory comparison of the 11 languages presented.

An Instructor's Manual includes answers to exercises and enlargements of very short, elementary programs to be used as transparency masters. The masters for the concept chapters are generally too small to be readable on an overhead, however.

If students are willing to overlook the many minor errors and typos, they will probably like this book. It is practical and provides things they can do at an early level. It would not be suitable for students ready to tackle the theoretical issues of language design, but then books that are, are often inaccessible to lower-division students.

{\bf\it Comparisons\rm }

The three tables are mostly self-explanatory. ``Projects,'' in Table 1, refers to either substantial programming assignments or term efforts. Experienced teachers can, of course, make up their own. Of the three books suitable for lower-division undergraduates, Ghezzi and Jazayeri is the most lively and well written. This does not mean, however, that students would like it the best. Both MacLennan and Tucker are more elementary, the latter being almost tutorial in nature. Of the more advanced books, Marcotty and Ledgard is clearly the most innovative, with its use of minilanguages. It is, however, probably unsuitable for all but the best undergraduates.

The book of readings by Horowitz should not be overlooked by an adopter of any of these texts. It is hoped that he will continue revising this valuable collection every two years, as has been customary so far.

Reviewer: D. Appleby Tarrytown, NY

Review Type: Signed Review

Cited References: [1]AUSTING, R. H.; ET AL. (EDS.) Curriculum '78: recommendations for the undergraduate program in computer science---a report of the ACM Curriculum Committee on Computer Science,Commun. ACM 22 (1979), 147--165. [2]MANDRIOLI, D.; AND GHEZZI, C. Theoretical computer science, John Wiley & Sons, New York, 1986. [3]LEDGARD, H. F. Ten mini-languages: a study of topical issues in programming languages,ACM Comput. Surv.3 (1971), 115--146.

36/7/9 (Item 1 from file: 233)

00361226 94PK09-008

Natural keyboard: Ergonomically sound -- Microsoft device's split design improves typing style

Caton, Michael

PC WEEK , September 5, 1994 , v11 n35 p16, 1 Page(s)

ISSN: 0740-1604

Company Name: Microsoft

Product Name: Natural Keyboard

Presents a favorable review of the Natural Keyboard ($99.95), a peripheral from Microsoft Corp. of Redmond, WA (800). Says it features a **split** , convex **key** layout; Windows specific keys; bundled utilities; and a sound option. However, it has a feel that is alternately resistant and mushy; requires adjustments from those who are not touch typists; and has problems when used with laptops. Contains the sidebar ``Microsoft **seeds** market with Windows keyboard'' (p16). Includes a photo. (dpm)

36/7/10 (Item 1 from file: 6)

1403629 NTIS Accession Number: DE88013585

Fast Flux Test Facility Performance Monitoring Management Information: (Final Report)

Newland, D. J.
Westinghouse Hanford Co., Richland, WA.
Corp. Source Codes: 040415000; 9500104
Sponsor: Department of Energy, Washington, DC.
Report No.: WHC-SA-0095-FP; CONF-870917-7
Sep 87 33p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI8903; NSA1300
ANS/ENS international conference on fast breeder reactor systems: experience gained and path to economical power generation, Richland, WA, USA, 13 Sep 1987.
Portions of this document are illegible in microfiche products. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC06-87RL10930
The purpose of this report is to provide management with performance data on key performance indicators for the month of July, 1987. This report contains the results for **key** performance indicators **divided** into two categories of ''overall'' and ''other''. The ''overall'' performance indicators, when considered in the aggregate, provide one means of monitoring overall plant performance. (ERA citation 13:045026)

36/7/11 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

13485869 PASCAL No.: 98-0183361
Segmentation of color images based on the gravitational clustering concept
YUNG H C; LAI H S
University of Hong Kong, Department of Electrical and Electronic Engineering, Pokfulam Road, Hong Kong
Journal: Optical engineering, 1998-03, 37 (3) 989-1000
ISSN: 0091-3286 CODEN: OPEGAR Availability: INIST-15166
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
A new clustering algorithm derived from the Markovian model of the gravitational clustering concept is proposed that works in the RGB measurement space for color image. To enable the model to be applicable in image segmentation, the new algorithm imposes a clustering constraint at each clustering iteration to control and determine the formation of multiple clusters. Using such constraint to limit the attraction between clusters, a termination condition can be easily defined. The new clustering algorithm is evaluated objectively and subjectively on three different images against the K-means clustering algorithm, the recursive histogram clustering algorithm for color (also known as the multi-spectral thresholding), the Hedley-Yan algorithm, and the widely used **seed** -based region growing algorithm. From the evaluation, it is observed that the new algorithm exhibits the following characteristics: (1) its objective measurement figures are comparable with the best in this group of segmentation algorithms; (2) it generates smoother region boundaries; (3) the segmented boundaries align closely with the original boundaries; and (4) it forms a meaningful number of segmented regions. (c) 1998 Society of Photo-Optical Instrumentation Engineers. **Key** words: image **segmentation** ; clustering; gravitational clustering; Markovian model; force effective function; RGB color space; objective evaluation; boundaries; segmented regions.

36/7/12 (Item 2 from file: 144)

DIALOG(R)File 144:Pasca

13051357 PASCAL No.: 97-0341196
Growth analysis of cotton crops infested with spider mites: II. Partitioning of dry matter
SADRAS V O; WILSON L J
C.S.I.R.O. Division of Plant Industry, Cotton Research Unit, P.O.B. 59, Narrabri 2390, N.S.W., Australia
Journal: Crop science, 1997, 37 (2) 492-497
ISSN: 0011-183X CODEN: CRPSAY Availability: INIST-1533; 354000065283510300
No. of Refs.: 15 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
Foliar pests can affect reproductive allocation in plants. Depending on how spider mites (Tetranychus urticae Koch) affect dry matter partitioning in cotton (Gossypium hirsulum L.), yield losses in infested crops could be similar, greater, or lower than expected from shoot growth reduction. In this paper, we analyzed the effects of mite infestations initiated at three stages during the crop cycle on the yield, growth and dry matter partitioning of cotton. Normal- and okra-leaf types, which are known to differ in their responses to mites, were compared in two experiments. Lint yield losses were significant and were greatest for the earliest mite infestations. Reduced shoot dry matter and reduced harvest index (lint yield/shoot dry matter) both contributed to these yield reductions. Yield losses were less severe in the okra-leaf cultivar than in its normal-leaf counterpart; this was in part due to a more favorable **partitioning** to **key** yield components in the former. In both experiments, reduced lint fraction (g lint (g **seed** cotton) SUP - SUP 1) contributed to the lower harvest index of damaged crops. Reductions in both fruit number per unit shoot dry matter and **seed** cotton mass per fruit also contributed to reductions in harvest index of damaged crops. Despite the observed reductions in harvest index and some of its components, allometric analysis showed that mites did not affect partitioning to reproductive organs even in the more severely infested treatments. Rather, the low harvest index of mite-infested crops was the result of small plant size. We conclude that mite effects on cotton growth and yield could be modelled by taking into account their primary effect on radiation-use efficiency and leaf senescence. Explicit modelling of the effects of mites on dry matter partitioning may not be necessary.

36/7/13 (Item 1 from file: 62)
DIALOG(R)File 62:SPIN(R)

00770145
Segmentation of color images based on the gravitational clustering concept
Yung, H. C. ; Lai, H. S.
University of Hong Kong, Department of Electrical and Electronic Engineering, Pokfulam Road, Hong Kong , nyung@eee.hku.hk
OPT. ENG.,BELLINGHAM; 37(3),989-1000 (Mar. 1998) CODEN: OPEGA
Work Type: THEORETICAL
A new clustering algorithm derived from the Markovian model of the gravitational clustering concept is proposed that works in the RGB measurement space for color image. To enable the model to be applicable in image segmentation, the new algorithm imposes a clustering constraint at each clustering iteration to control and determine the formation of multiple clusters. Using such constraint to limit the attraction between clusters, a termination condition can be easily defined. The new clustering algorithm is evaluated objectively and subjectively on three different images against the K-means clustering algorithm, the recursive histogram clustering algorithm for color (also known as the multi-spectral

thresholding), the He[redacted]ey-Yan algorithm, and the widel[redacted]sed **seed** -based region growing algorithm. From the evaluation, it is observed that the new algorithm exhibits the following characteristics: (1) its objective measurement figures are comparable with the best in this group of segmentation algorithms; (2) it generates smoother region boundaries; (3) the segmented boundaries align closely with the original boundaries; and (4) it forms a meaningful number of segmented regions. (Copyright) 1998 Society of Photo-Optical Instrumentation Engineers. **Key** words: image **segmentation** ; clustering; gravitational clustering; Markovian model; force effective function; RGB color space; objective evaluation; boundaries; segmented regions.
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